

**A QUANTITATIVE ANALYSIS OF THE ECONOMIC INCENTIVES
OF SUB-SAHARAN AFRICA URBAN LAND USE PLANNING
SYSTEMS: CASE STUDY OF ACCRA, GHANA**

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A Thesis submitted to the School of Technology
University of Wolverhampton in partial fulfilment of the requirements
for the Degree of Doctor of Philosophy

April, 2013

Declaration

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Dedication

This work is dedicated to the memory of my late father and mother, Kwame Amoah and Adwoa Akwei, who trained me to work hard, persevere and never give up even when the going gets tough.

Acknowledgements

To whom honour is due, honour must be given. Therefore, it would be out of place not to acknowledge and thank the people and institutions whose diverse assistance, contribution and support, has made this work a reality.

My foremost thanks go to God Almighty for bringing me this far. Indeed, without him nothing could have been achieved. As such, I give him all the glory. I would also want to acknowledge University of Wolverhampton and Ghana's Lands Commission for funding my pursuing of this PhD programme and making the execution of this research, a reality. Additionally, I wish to express my sincere gratitude to members of my supervisory team. This research would not have been possible without the guidance of Dr Felix N. Hammond, who directed this work. Thank you, Felix, for your excellent academic, expert and spiritual guidance as well as your support for me and my family throughout this "PhD Journey". To the remaining members of the team; Professor David Proverbs, Dr Colin Booth, Dr Jessica Lamond and Dr Robin Bloch, I am grateful to you for accepting to be on the team and your advice, suggestions and encouragement which helped to sustain my commitment to this PhD research and also shaped the outcome of this work.

I thank Alhaji Sulemana Mahama of Ghana's Lands Commission who consistently urged and encouraged me to pursue higher academic laurels engendering my pursuit of this PhD Degree. Alhaji, I am grateful for your advice and support, most of all during my actual PhD training, which happens to be one of the most trying moments of my life. Similarly, I thank Madam Elsie Asare (Mama Akos) for her prayers and invaluable pieces of advice right from my conception of the idea to pursue a PhD programme to date. To colleagues at the University of Wolverhampton and friends across the UK who urged, encouraged and supported me to carry on when I felt like "throwing in the towel", I am indebted to you.

My next thanks go to my research assistants, respondents, informants and all those who provided me with the necessary information to undertake this research. I am particularly grateful to staff of the Lands Commission, messers Ayivie and Lawrence Dakura of the Department of Town and Country Planning (T&CPD), Accra, staff of T&CPD, Works and Development Control Departments at the Ga East Municipal Assembly and Mr Peter Deveer (Regional Manager) and his team at Ghana Water Company Limited. The

rest are: Mr Kissi of Electricity Company of Ghana; Mrs Regina Vander-Pallen of Department of Urban Roads; Mr Ebenezer Awidi of Department of Parks and Gardens; and Mawuli Amoah and Sylvester of Vodafone Ghana Limited.

Furthermore, I thank my wife, and my brother and sisters (Kwasi Awuah, Ama Serwaa, Yaa Sakyiwaa and Nana Ama Kyeremaa) whose support has brought me this far. To my wife, Alice, I am particularly grateful to you for your patience, encouragement and above all the enormous sacrifices you made to enable me attain this height. I wish to also pay special tribute to my late mother, Adwoa Akwei (Hannah Dorothy Appiah) who always prayed fervently for my successful completion of this programme. Unfortunately, as fate and destiny would have it, did not live to witness this blissful day. Mama, I know you are happy for this occasion. Thank you for all your efforts, which have not been in vain.

Finally, I thank my colleagues and friends in Ghana for their support and contribution during my data collection exercise, which coincided with the burial and final funeral rites of my late mother. To Felix Kwabena Danso, especially, I owe you a lot of gratitude for your sense of responsibility.

List of Abbreviations

BOG	Bank of Ghana
CBD	Central Business District
CVM	Contingent Valuation Method
DPG	Department of Parks and Gardens
DUR	Department of Urban Roads
ECG	Electricity Company of Ghana
GAMA	Greater Accra Metropolitan Area
GAR	Greater Accra Region
GDP	Gross Domestic Product
GEMA	Ga East Municipal Assembly
GhIS	Ghana Institution of Surveyors
GSS	Ghana Statistical Service
GWCL	Ghana Water Company Limited
KVA	Kilo Volts Ampere
LAP	Land Administration Project
LC	Lands Commission
LI	Legislative Instrument
LTR	Land Title Registry
LRD	Land Registration Division
LUMP	Land Use Planning and Management Project
LVB	Land Valuation Board
LVD	Land Valuation Division
NDPC	National Development Planning Commission
OECD	Organisation for Economic Co-operation and Development
PNDCL	Provisional National Defence Council Law
PVLMD	Public and Vested Lands Management Division
SD	Survey Department
SMD	Survey and Mapping Division
SSA	sub Saharan Africa
SSA ULUP	sub Saharan Africa Urban Land Use Planning
SSA ULUPS	sub Saharan Africa Urban Land Use Planning Systems
TCPD	Department of Town and Country Planning
UK	United Kingdom
ULUP	Urban Land Use Planning
ULUPS	Urban Land Use Planning Systems
USA	United States of America
UN	United Nations
UNFPA	United Nations Population Fund
UN-Habitat	The United Nations Human Settlements Programme
VGL	Vodafone Ghana Limited

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Glossary

sub-Saharan Africa: According to the World Bank (2009) refers to countries within Africa which lie south of the Sahara Desert and, therefore, excludes North Africa. Thus, from World Bank designation sub-Saharan Africa excludes Egypt, Libya, Tunisia, Algeria and Western Sahara and is made of forty-eight (48) countries inclusive of the offshore islands. The geographical location of the sub-region is shown by Figure 1.2 (page 5, Chapter 1) and its 48 constituent countries are: Botswana, Gambia, Ghana, Kenya, Lesotho, Liberia, Mauritius, Namibia, Nigeria, Sierra Leone, South Africa, Uganda, Zambia, and Zimbabwe known as Anglophone countries; Benin, Burkina Faso, Congo, Cote D'Ivoire (Ivory Coast), Democratic Republic of Congo, Gabon, Guinea, Mali, Niger, Senegal and Togo commonly referred to as Francophone countries; Cameroun and Seychelles referred to as Anglo-Francophone countries; Angola, Cape Verde, Guinea Bissau, Mozambique and Sao Tome and Principe referred to as Lusophone countries; and Burundi, Central Africa Republic, Chad, Djibouti and Comoros, Equatorial Guinea, Ethiopia, Eritrea, Madagascar, Mauritania, Rwanda, Somalia, Sudan, Swaziland, and Tanzania also called residual countries.

Urban Land Use Planning System: The collection of agencies, procedures, instruments and protocols that are often sanctioned by the formal state, backed by formal law, and linked especially to rights to develop and use housing, land and property (UN-Habitat, 2009a). Urban land use planning system is, however, used interchangeably with urban land use planning regime.

Urban Land Use Planning Regulations: They refer to requirements under urban land use planning systems.

Zoning: the division of a community into districts or development zones in which certain activities are prohibited while others are permitted (see GoG, 1990).

Sub-division planning scheme: A plan that divides raw land into parts, govern its development for residential or other purpose and prescribe standards for lot sizes, layout, and procedures for dedicating private land for public purpose, among others (see GoG, 1990; Farquave and McAuslan, 1992).

Abstract

The deficiency of sub-Saharan Africa urban land use planning regimes has received extensive discussion in the literature. As yet, little is known of the extent and magnitude of the economic impact of these planning regimes on the economic wellbeing of individuals and the society. This situation is further compounded by the lack of simplified and bespoke methodologies for calibrating economic impacts of planning policies even in the developed world where there are relatively huge volumes of organised data. This study aims to prescribe a simplified quantitative methodology, which is subsequently employed to gauge the economic impacts of these regimes. It proceeds on the central argument that planning regimes in the sub-region are weak with low compliance with planning regulations, partly because they do not provide incentives for property owners/developers/land users.

The study adopts a cross-sectional survey strategy with questionnaires and administrative data extraction to procure the requisite data from Accra, Ghana to feed the devised methodological framework.

The study establishes that Ghana's urban land use planning regime, in its current form, imposes huge cost on residential property owners compared to its benefits; it creates a disincentive for property owners. A substantial amount of this cost emanates from pipe-borne water, and tarred roads and concrete drain infrastructural facilities. It is further established that the cost of title formalisation requirement constitutes a huge portion of the cost on express requirements under the planning regime. A major portion of this cost results from the cost other than official fees. However, on individual basis the requirement generates marginal net benefit. Incidental costs for the other express requirements, architectural design and building permit are also substantial. In terms of benefits, tarred roads and concrete drains, formalised title, electricity and pipe-borne water, individually, are found to generate the most benefits under the planning regime.

The study makes a number of recommendations. These include formulation of planning policies on the basis of providing incentives to property owners/developer/land users, strategies for reduction of infrastructural and amenities costs, as well as incidental cost relating to compliance with the subject planning regime express requirements.

Chapter One

General Introduction

1.1 Introduction

This study investigates compliance with land-use planning regulations in sub-Saharan Africa (SSA), using the Austrian economics theory of human action as the main analytical framework. Economic principle illustrates that people respond to incentives (Glaeser, 2004; O'Sullivan and Sheffrin, 2007; Mankiw, 2011). The literature suggests that compliance with land-use planning regulations in SSA is low. For example, according to Kombe (2005), 80% of housing in urban Tanzania is unauthorised. This presupposes that the incentives that the current SSA planning systems are offering are inadequate to induce the expected level of compliance. Human action theory provides insights into which incentives will induce commendable compliance (see Section 2.6).

Eight in every ten sub-Saharan Africans survive on less than \$2.50 a day (World Bank, 2012a) compared to the USA where only 15.1% of the population (one in every seven Americans) live on less than \$31 a day (Federal Register, 2012, Volume 77(17), 4034-4035). Even so, 46% of the poor in the USA own their own homes (Rector and Johnson, 2004). Since SSA is not resource-poor (see Büscher, 2012), then except self-imposed poverty, liability for income poverty is attributable to inefficient allocation of its land, human and capital resources. The disposing function of land use planning is to allocate land resources efficiently across various desired uses of land to ensure that each necessary use is adequately provided for (Harrison, 1977; Chesire and Sheppard, 2005; Chesire and Vermeulen, 2008). Land use planning is a socialist resource allocation doctrine (see Hayek, 1944, 1976; Pasour, 1983) that has survived all capitalists' attacks. Though not often thought of as such, land use planning promotes more than allocation of land resources to various uses. It also promotes certain allocation of financial and human resources (Lichfield *et al.*, 2003; Chesire, 2008). Thus, the contribution of land use planning to poverty alleviation can not be adequately understood merely by evaluating the adequacy of its land use provisions, but also to its incidental financial and human resource allocation.

On average, twelve months elapse between submission of application for planning permission and approval in most SSA countries with comparatively huge cost of securing planning permission in these economies (see UN-Habitat, 1999; Payne and Majale, 2004;

Kironde, 2006). These estimates exclude the waiting periods and costs associated with pre-application activities, such as preparation of design drawings and titling. One is immediately left with the question do the returns from compliance with these land use planning requirements adequately compensate for the associated cost? If not, then, are the existing planning systems not aggravating rather than helping to alleviate poverty in these economies?

The quest for economic growth and development has historically and continues to underpin all human endeavours. The great transformation in Western Europe between the fourteenth and eighteenth centuries with the emergence of market economy and enlightenment, for example, was to achieve economic growth and development (Smith, 2005). The then emerging market economy created opportunities for expression of individual aspirations, encouraged entrepreneurial behaviour and development of new ideas from scientific inquiries for the advancement of Western European societies (see Smith, 2005: Chapter 2). More recently, the push for “Territorial Agenda” by the European Union (see Faludi, 2009) also epitomises the desire of the Union to promote continuous growth and advancement of its member economies.

Cities and urban areas play immense role in socio-economic development. Barroso (2012) reports that cities constitute the home of 75% of Europe’s population, account for 80% of energy use and produce 85% of the continent’s GDP. Cities and urban areas also generate more than 80% of global GDP (McKinsey Global Institute, 2012). Though urban areas have adverse effects such as crime, a well configured urban area leads to economies of agglomeration through the attractions of people and economic activities, a phenomenon necessary for economic growth and development (Marshall, 1890; Hirsch, 1973; Friedmann, 1986; Glaser, 1999; see also Figure 1.1). Consequently, cities and urban areas have become very important economic growth and development “vehicles” attracting the attention of policy makers at the international as well as national and sub-national governmental levels (Harris, 2002; see also World Bank, 2009). This is increasingly attracting international development funding into sustainable development of cities and urban areas (UN-Habitat, 2009a). The World Bank (2010), for example, asserts that since its first urban lending operation in 1972 for sites and services project in Senegal, it has financed investments and technical assistance in more than 7,000 cities and towns in over 130 countries. These investments were in the areas of shelter, infrastructure, slum upgrading, municipal and local developments, natural disaster management, environmental improvement and social services.

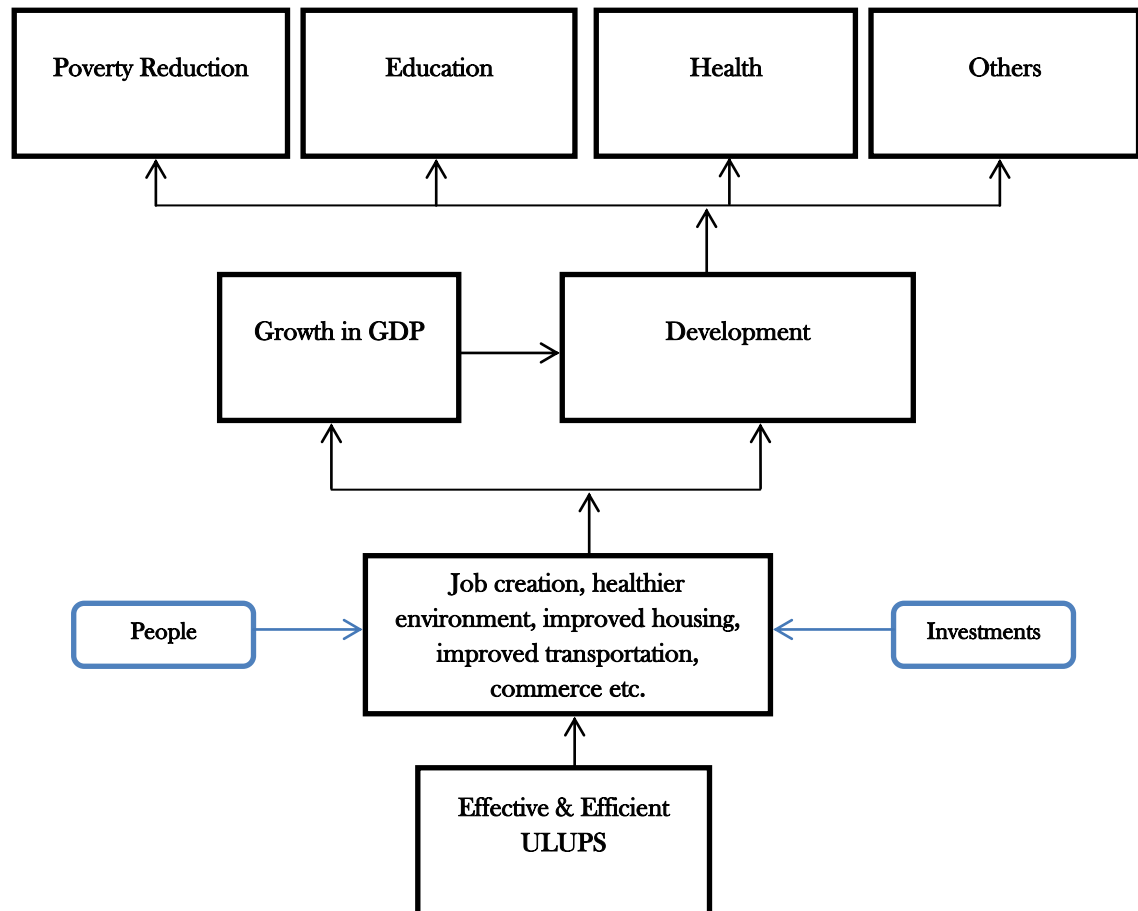


Figure 1. 1 Configuration of Cities and Urban Areas

A central tool identified for effective and efficient functioning of cities and development of sustainable cities and urban areas is ULUP (Roy, 2009; Seto and Shephard, 2009; Bart 2010). However, scepticism continues to be expressed on the appropriateness of ULUP regimes especially those of the developing world like SSA to deal with development challenges, such as unauthorised and slum developments and rapid urbanisation, faced by urban areas in the 21st century. This is due to their underlying weaknesses like numerous and complicated regulations, and complex bureaucratic planning procedures (Payne and Majale, 2004; Watson, 2009a; UN-Habitat, 2009a; Baffour Awuah *et al.*, 2011b). A major link to these weaknesses is low compliance with requirements of these planning regimes. Consequently, various calls have been made for the overhaul of ULUP regimes in the developing world (see Dowall and Clark, 1996; UN-Habitat, 1999, 2009a).

While the foregoing is understandable, the extent of economic impact of extant ULUP regimes in the developing world such as SSA is unknown (Farvacque and McAuslan, 1992; Dowall and Clark, 1996; Baffour Awuah *et al.*, 2010), which implies that no

realistic solution can be proposed. This situation clearly lends itself to empirical examination to provide tangible evidence for policy formulation. Even in the developed world, such knowledge appears to be scanty due to methodological complexities (see Adams *et al.*, 2005; Bertaud, 2007). For example, in the review of housing and planning regime in the UK, Barker (2003) reiterated the inability of policy makers to gauge the economic impact of planning policies due, among other things to inadequate understanding of the relationship between planning policies and the urban property market. However, as noted by Corkindale (2004) economic evaluation of ULUP regimes is a necessary ingredient for future formulation of appropriate policies.

The aim of this study is to evaluate in quantitative terms the economic incentive (or disincentive) provided by SSA ULUP regimes dwelling on Accra, Ghana as the case study. The study uses individual residential property owners/developers as a unit of analysis and defines economic incentive as the positive difference of the benefit and cost of compliance with ULUP regimes' requirements. The central argument of the study is that ULUPS in SSA are weak with low compliance with planning regulations partly because they do not provide incentives for property owners/developers or land users. Figure 1.2 demonstrates the geographical location and extent of Africa and SSA relative to other continents of the world. Definitions of SSA and ULUPS are also given at the glossary section (page xvi). However, detailed discussion on the definitions of ULUP and ULUPS is contained in section 2.2 (Chapter 2). Section 1.6 gives a description of Ghana, the geographical limit for the research as well as its scope in terms of content – definition of land use planning as applied to this study.

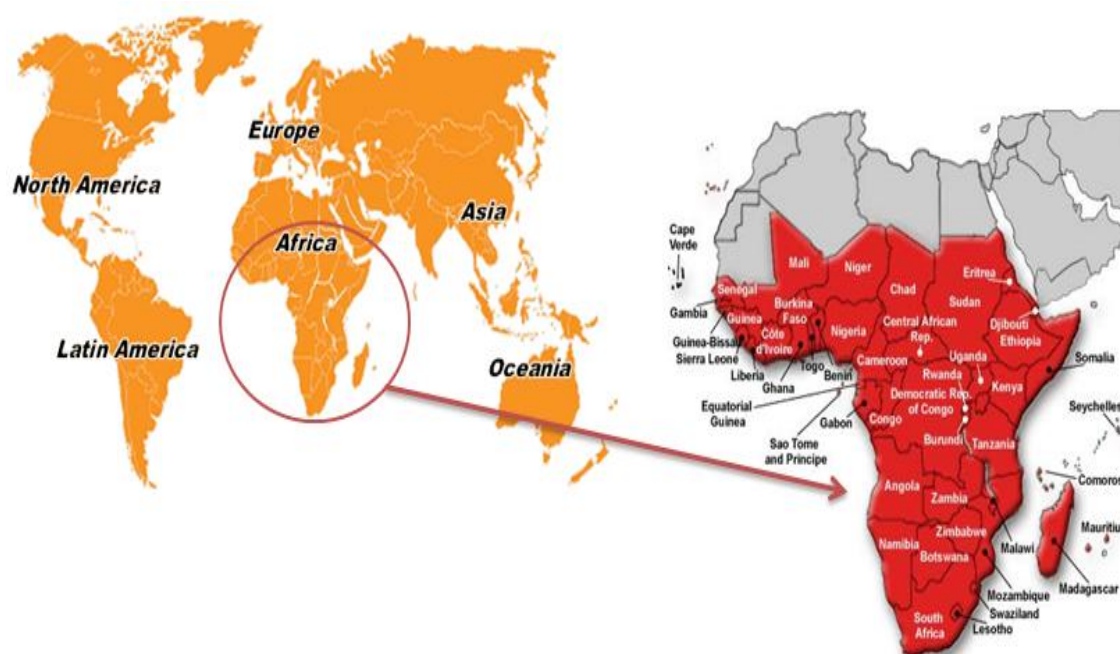


Figure 1.2 Geographical Contexts of Africa and SSA
 Source: <http://www.luventicus.org/maps/world/africa.html>

1.2 Economic Development and the ULUP Question in SSA

The need for economic development cannot be over-emphasised. To this end, stimulation of economic development in constituent economies in SSA has over the years attracted the attention of national governments and the international community. Conscious of the need to stimulate economic development, newly emergent African states after independence mostly in the 1960s operated state controlled economic system. State funded industrialisation was the primary driver of development (see Aryeetey, 2004; Car, 2008; Rakodi, 2006a; Bryceson *et al.*, 2009; Hammond and Antwi, 2010). This was informed by the then Western world oriented modernist development theories, such as the Rostow (1960) linear stages of growth and Lewis (1954) structural change models. For example, Ghana after independence in 1957 adopted welfare model of development that sought to achieve economic growth and development through state led industrialisation. This was based on the country's "Big Push" development orthodoxy (Hutchful, 2002; Aryeetey, 2004; Larbi *et al.*, 2004; Car, 2008). Subsequently, various prescriptions handed down by international development agencies, such as the World Bank and the International Monetary Fund have and continue to be adhered to, by countries within the SSA sub-region. The 1970s, for example, witnessed the adoption of basic needs model while the 1980s and 1990s saw various economic recovery programmes like the Structural

Adjustment Programme and Economic Recovery Programme. These programmes were aimed, *inter alia*, at restructuring constituent economies and allowing efficient use of private capital to promote development (Todaro and Smith, 2009; Bryceson *et al.*, 2009).

To date however, SSA's longstanding dream to overcome the larger issue of economic development so as to transcend the quagmire of problems, such as ignorance, disease, conflicts, unemployment, social and cultural inequalities, poverty and famine, among others, seems to have eluded the sub-region. Bryceson *et al.* (2009 p 731) observe that in spite of Western donor agencies' concentrated aid expenditure and the World Bank's dominating influence on national economic policy formulation in SSA, the sub-region is still gripped by economic malaise. Indeed, while other third world regions such as Latin America and Asia excluding China and India recorded some growth in their share of global GDP for the period 1820 to 1998 that of Africa declined continuously (see Table 1.1).

Table 1. 1 Africa, Latin America and Asia Excluding China & India Share of Global GDP from 1820 to 1998

Region	1820	1950	1998
Africa	4.5	3.6	3.1
Latin America	2.0	7.9	8.7
Asia Excluding China & India	7.3	6.8	13.0

Source: World Bank (2009)

Again, while between 1960 and the late 1980s almost every country in the world showed continual increases in life expectancy at birth, the situation in SSA was disappointing (World Bank, 2009). Recent statistics (see Table 1.2) produced by UNFPA further corroborates Africa's rather poor life expectancy situation compared to other regions of the world. Africa's performance in this area was even due relatively to the outstanding performance of North Africa (see UNFPA, 2010: p 99). This signifies extremely poor performance in SSA.

Table 1. 2 Life Expectancy Rates (%) of the Regions of the World

Region	Male	Female
Africa	53.8	56.2
Arab States	67.4	71.1
Asia	67.8	71.5
Europe	71.7	79.6
Latin America & the Caribbean	70.8	77.2
North America	77.5	81.9
Oceania	74.6	79.3

Source: UNFPA (2010)

Compounding the foregoing is the tripartite issue of urban poverty, rapid urbanisation and rise in informal economic activities. Poverty has since the 1980s become synonymous with the sub-region. The UN, for example, described the 1980s as the lost decade for the sub-region (Todaro, 2009). Earlier in the last decade, it was observed that 300 million people in SSA were poor. It is currently estimated that 35% of the world's poor population live in SSA, leaving the sub-region as the poorest in the world (World Bank, 2012a). However, while the greatest incidence of poverty was in the rural areas, there has been a sudden twist with urban areas beginning to experience increasing poverty levels (UN-Habitat, 2006; Obeng-Odoom, 2010).

Despite European colonial authorities deliberate policy to hold down the populations of Africa's urban centres through imposition of restrictions on migration of indigenous African population to towns prior to the 1960s (Satterthwaite, 1996; Njoh, 2004, 2009; Songsore, 2009) urban growth in Africa commenced in the 1950s (Rakodi, 1998). Rakodi (1998) reports that Africa with the exception of South Africa recorded urban growth of between 4% and 6% in the 1950s, and accelerated after 1960s when most African states attained independence. Indeed, the UN (1998) notes that Africa's urban population grew from 14.6% in 1950 to 20.7% in 1965 and then to 27.3% and 34.9% by 1980 and 1995 in that order compared to those of Asia, which stood at 17.4%, 22.4%, 26.7% and 34.7% respectively. Presently, more than 50% of the world's population resides in urban areas and this is expected to soar to 70% by 2050 with the highest concentration in Asia and Africa (Watson, 2009; Seto and Shepherd, 2009; Hammond *et al.*, 2012). Africa though the least urbanised continent (Songsore, 2004, 2009; Owusu, 2010) at the moment has the highest urban growth rate per annum and its urbanisation rate is projected to reach 48% in 2030 and 60% in 2050 (UN-Habitat, 2009a).

Unlike the urbanisation that was experienced in the developed world following the industrial revolution, that of SSA has not been accompanied by similar economic fortunes (Songsore, 2004; Chang, 2009; Owusu, 2010). The urban transition in SSA has been occurring under vulnerable economic base and in the face of full exposure of the sub-region to forces of global competition, limited outlets for external migration and depredation of productive work force and of family security due to HIV AIDS (World Bank, 2003; Kessides, 2007). That aside, following the Structural Adjustment Programme in Africa since the 1980s, there were rising levels of formal unemployment, falling per capita urban income and public sector retrenchment (Rakodi, 1998; Taodaro and Smith, 2009). Therefore, even though Africa has witnessed some economic growth since the

1990s, such growth is not enough to address the development challenges that confront the continent (Kessides, 2007).

Given such precarious socio-economic conditions, individual urban dwellers are bound to make choices within their reach even if they are against formal regulations, to survive. Consequently, the on-going urban transition in SSA continues to be characterised by rising informal sector; the informal sector activities are estimated to account for 93% of all new jobs and 63% of urban employment in Africa, and urban ills (Kessides, 2007; see also Watson, 2009a). These urban ills include: unauthorised and slum developments; co-location of first class and shanty settlements (see Figure 1.3); poor housing and environmental conditions; and traffic congestion (Konadu-Agyemang, 1998; UN-Habitat, 2009a; Bazoglu, 2011).



Figure 1. 3 Extract of Co-located Urban Areas in Accra

Source: Author's Field Survey – Airport Residential Area and Nima, co-located first class residential area and shanty settlement only separated by a road

With the resurgence of spatial economics' postulation of cities and urban areas as engine of growth and development, it has been argued that cities and urban areas hold the key to economic development of SSA (see Potts, 2009). The World Bank (2009: p 48) notes that no country in the world has developed without growth of its cities. The Bank (p 57) buttresses this observation with evidence that the top 30 cities in the world ranked by GDP in 2005 accounted for 16% of the world's output whilst the top 100 cities almost generated 25% of the global output. Furthermore, it points out that cities in SSA, such as Luanda, Nairobi and Lagos in 2005 contributed around 20% each of their countries (Angola, Kenya and Nigeria respectively) GDP while other cities in developing regions like Mexico City generated 30% of Mexico's GDP.

That said, it is further argued that cities and urban areas' continuous performance as engine of growth and development is dependent, among other things on the institution of appropriate regulations for their configuration, and intervention, to ensure efficient land use and management of diseconomies of agglomeration. That is, for SSA cities and urban areas to promote growth and development, there is a need for their effective and efficient management (UN-Habitat, 2008; World Bank, 2009). Connected to this, is the International Community's call for sustainable development following the "Earth Summit" in Rio de Janeiro, Brazil in 1992, which in the urban context requires appropriate policies to deal with diseconomies of agglomeration.

Given the foregoing imperatives, effective and efficient ULUP has been rediscovered as the appropriate tool for management of cities and urban areas particularly in the developing world in the 21st century (UN-Habitat, 2009a; Watson, 2009a; Roy, 2009). However, it remains a doubt whether ULUP regimes in SSA can support cities and urban areas in the sub-region to promote sustainable growth and development. Indeed, ULUP regimes in the sub-region like those of the other developing world are said to be weak and dysfunctional (Dowall and Clark, 1996; Payne and Majale, 2004; Dowall and Ellis, 2009).

1.3 Statement of Research Problem

Several studies such as Afrane (1993), Larbi (1996), Njoh (1997, 2004, 2009), UN-Habitat (1999, 2009a), Arimah and Adeagbo (2000), Mwimba (2002), Payne and Majale (2004), Kombe (2005), Kironde (2006), Aribigbola (2007), Oyugi and K'Akumu (2007), among others, have examined the ULUP question in various SSA economies. These studies found SSA ULUP to be weak. Low compliance with ULUP regulations is one of the major weakest links of SSA ULUP regimes (see Larbi, 1996; UN-Habitat, 1999, 2009a; Arimah and Adeagbo, 2000; Friedman, 2005). However, there is a dearth of in-depth studies that apply insights from economics to ULUP regimes in the sub-region to explain this weakness and lay bare the extent of the economic impact of these planning regimes (Egbu *et al.*, 2008; Baffour Awuah *et al.*, 2010) for far reaching policy solution.

There is a small strand of studies that quantitatively analyse some aspect of the urban development processes in the sub-region. These studies, such as Asabere (1981), Antwi (2000), Hammond (2006), Anim-Odame *et al.* (2006), Anim-Odame (2008, 2010), Hammond and Antwi (2010) in Ghana and Arimah (1992) in Nigeria, however, did not focus primarily on ULUP regimes. In fact, studies, such as Farvacque and McAuslan (1992) and Dowall and Clark (1996) have long made recommendations on the need for

economic cost and benefit examination of ULUP regulations in the developing world such as SSA. As noted earlier, studies since then have failed to deal with these recommendations. Therefore, the question that still remains to be answered based on empirical evidence is: what is the extent and magnitude of economic incentive/disincentive provided by extant ULUP regimes in SSA?

1.4 Statement of Research Objectives

To contribute towards bridging the knowledge gap identified in the preceding section, this study investigates compliance with extant SSA ULUP regimes' requirements with the view to evaluate in quantitative terms the economic incentive (or disincentive) provided by the regimes. The study uses empirical data from Accra, Ghana as the case study. The objectives are to:

1. Evaluate the extant literature on the concept of ULUP and economic theories to establish background knowledge and insights, and suitable theory for systematic inquiry;
2. Devise a suitable analytical framework for the study;
3. Use insights from the theory to evaluate the relevant literature on ULUP in SSA;
4. Devise methodology(ies) for the calibration of the economic incentives/disincentives provided by SSA ULUP regimes;
5. Examine the relationship between property owners' awareness of ULUP requirements and their perception of relevance of ULUP in Ghana on one hand, and compliance with ULUP requirements on the other;
6. Evaluate the net benefit (or deficit) of Ghana's ULUP regime; and
7. Draw inferences and conclusions with the view to recommending policy changes that are likely to enhance the net economic gains from the regime.

1.5 Approach to Research

The three main research methodologies usually employed within the social science disciplines; the quantitative, qualitative and mixed methods paradigms (Creswell, 2003, 2009) were examined. However, driven by the aim of the research which, in the main, sought to devise a suitable framework to investigate compliance with SSA ULUP requirements and evaluate in quantitative terms the economic worth of the planning regimes, the quantitative research paradigm was adopted. The quantitative research

paradigm as explained by Babbie (1990) and Creswell (2009) subscribes to a deductive approach to research in which causal explanation and prediction of an outcome of a phenomenon follow a deductive logic form. The research paradigm further advocates for the commencement of a research with a theory comprising a set of interconnected general propositions and through logical reasoning set its hypotheses. This is then followed by operationalisation of variables embedded in the hypotheses, and subsequently, the testing of the hypotheses upon collection of data based on a set standard of reliability and validity.

The study, therefore, began with extensive evaluation of the relevant literature on the concept of ULUP and economic theories. Based on this review, a suitable analytical framework was devised for the research. Insights from the framework were then used to evaluate relevant literature on SSA ULUP regimes on the basis of which a central hypothesis for the study was constructed. Subsequently, customised operationalisation procedures were outlined for the measurement of variables identified by the framework. Empirical data was then collected to test the central hypothesis and also address the research question. This was executed through analysis and interpretation of the collected data and validation of the findings.

Given that the requisite data was to be obtained from respondents in their natural setting, the limited time within which the research was to be carried-out and cost considerations, survey research strategy, specifically a cross-sectional design was adopted. Samples were drawn from individual property owners/developers, and professionals and institutions involved in the urban development processes. Questionnaires instruments and interviews together with data extraction from existing databases of the sampled institutions involved in the urban development processes were, therefore, used as methods to gather requisite data. Five distinct questionnaire instruments administered to individual property owners/developers, and professionals involved in the urban development processes were used. With the aid mainly of statistical package for social science version 16, the operationalisation procedures were used to analyse the data and findings from the analyses validated through interview of experts in the field. For detailed discussions on the research approach, refer to the research methodology chapter (Chapter 5).

1.6 Scope of the Research

The study investigates compliance with SSA ULUP regimes' requirements with the view to evaluate the economic worth of the planning regimes. It uses empirical data from

Accra, Ghana and focuses on Kwabenya neighbourhood. Ghana, officially known as the Republic of Ghana is one of the forty-eight (48) countries in SSA. Prior to obtaining independence in 1957, the country was called Gold Coast, a name given to it by its British colonialists. However, the present day Ghana was formed from amalgamation of the then British colony of Gold Coast (Gold Coast) and the British Togoland trust territory.

Ghana has a total land area of 92,100 square miles or 230,020 square kilometers and is located close to the equator on the Greenwich Meridian (GoG, 1999). It shares common boundary on the north and north-west, south, east and west with Burkina Faso (previously Upper Volta), Atlantic Ocean, Togo, and Cote D'Ivoire (Ivory Coast) respectively. The country is divided into ten administrative regions and has a population of 18,913,000 (see GSS 2005a). The ten administrative regions are: Greater Accra; Central; Eastern; Western; Volta; Ashanti; Brong Ahafo; Northern; Upper East; and Upper West Regions. Figure 1.4, the map of Ghana, gives the geographical context of Ghana and shows its ten administrative regions and neighbour countries.

The choice of Ghana as a case study country among other countries in SSA was made on purposive basis (see also Chapter 5 for the background, location and basis for the selection of Accra with emphasis on Kwabenya for the research). This selection was informed by two main reasons. To begin with, the phenomenon under investigation, ULUP focuses on urbanism and how it can be made to manage cities and urban areas in SSA effectively and efficiently to promote sustainable socio-economic development. Ghana is one of the countries in SSA experiencing high and rapid urban growth and urbanisation with its attendant challenges, such as high incidence of urban poverty (see Obeng-Odoom, 2010; World Bank, 2012b) and disregard for ULUP regulations. In fact, according to UNFPA (2010) 51% of Ghana's population is living in urban areas with a growth rate of 3.6% per annum compared to 40% and an annual growth rate of 3.4% for the whole of Africa. Earlier in 2007, it was even projected that 75.5% of the population of the country will be living in urban areas by 2050 (DESA, 2007). Ghana, therefore, mirrors the SSA urban challenge and its quest to make urban centres a catalyst for economic growth and development. The country from this standpoint passes the test as a case study country for SSA.

The other reason for the choice of Ghana as the case study country stems from accessibility to requisite data for the research. Ghana is currently undertaking land tenure reform under a national LAP. As part of this wider land tenure reform, efforts are being

made to revise the country's ULUP regime through LUMP, a subsidiary project to LAP (GoG, 2003; 2007; LUMP, 2009). As a result, several baseline activities on the country's ULUP regime have been undertaken. This serves as a rich data source for this present research.

Connected to the foregoing is the researcher's extensive experience in ULUP and urban development processes in Ghana having worked as a Lands Officer at Ghana's Lands Commission with responsibilities, such as chairing urban development planning committees for close to ten years. The researcher's experience and acquaintance with institutions and personalities involved in ULUP and urban development processes meant that he comparatively could easily access requisite data, and save time and other resources in Ghana, hence the selection of the country as a case study.

In terms of content, the study uses residential property owners/developers as the primary unit of analysis and focuses on express and implied requirements for planned residential development. Specifically, it has to do with ULUP as the process of allocating land to desired uses through preparing and ensuring approval of sub-division plans, providing infrastructure and amenities, and developers meeting other requirements such as having architectural designs, formalised title and building/development permit prior to development.

Given this delimitation of the research, it was not intended to make generalisations across SSA even though the findings from the research could offer useful lessons and implications for other countries in the sub-region.



Figure 1. 4 Geographical Context of Ghana

Source: <http://www.smartraveller.gov.au/zwiki/pub/Maps/countries/dfat/Ghana.jpg>

1.7 Significance of the Research

The preceding discussions have established *inter alia* that SSA ULUP regimes are weak and, therefore, require overhaul. Fundamental to such overhaul is the need for quantitative economic appraisal to inform far reaching policy formulation. However, there is a dearth of in-depth studies on quantitative economic appraisal of SSA ULUP regimes. While such studies are absent, there are current on-going ULUP reforms aimed at improving ULUP regimes in the sub-region. Ghana, the case study country, is one of such countries currently implementing ULUP reforms through LUMP (Larbi *et al.*, 2004; GoG, 2009). The empirical quantitative evidence from this research in terms of its findings, therefore, is a useful input to LUMP in its quest towards finding a far reaching policy solution to the ULUP question in Ghana. Besides, it extends other economic quantitative studies mentioned earlier in Ghana on the urban development processes (see

Section 1.3) to give a broader picture of the economic implications of land administration regime in the country for policy formulation purpose.

Additionally, the theoretical insights brought to bear from the analytical framework devised by the research extend the frontiers of extant knowledge on the conceptual understanding of the weakness of existing ULUP regimes in SSA. These insights provide useful lessons and implications for constituent economies in the sub-region for future ULUP policy formulation and practice as well as for academic purposes. Similarly, the flexibility of the economic impact calibration method(s) devised by the research means that it can be used for practice and academic purpose across the sub-region and indeed the entire developing world.

1.8 Organisation of Thesis

The thesis contains nine chapters. The remainder of the thesis is as follows. Chapter two evaluates the literature on the concept of ULUP and the economic rationale for ULUP intervention in the urban property market. Following this, the chapter devises a conceptual framework (analytical framework) for the study based on the Austrian economics theory of human action. Chapter three on the basis of insights from the human action theory evaluates the relevant literature on ULUP in SSA with discussions on planning regime in Ghana. The chapter, thus, examines planning prior to and during Western Europe's colonisation of the sub-region as well as post-colonial planning arrangements with discussions on Ghana. The chapter further examines compliance with planning regulations and provides conceptual explanation of low compliance with regulations in the sub-region and the consequences thereof. The chapter finally discusses the current efforts at reviewing planning regimes in the sub-region and then sets the central argument for the study. Chapter four outlines how the variables within the conceptual framework are operationalised. It commences with review of conventional economic impact methodologies. This together with insights from the conceptual framework forms the basis for formulation of bespoke methodology(ies) for the study. Chapter five presents the research methodology for the study. It discusses the various research paradigms and selects an appropriate paradigm. The study's strategy, population and sampling, validation issues, data collection methods and analytical tools are discussed afterwards. The chapter concludes with discussions on steps taken to ensure high research ethical standards. Chapters six, seven and eight focus on findings from the survey(s) and their discussions. Chapter six presented findings and discussions relating to the relationship between

property owners' socio-economic characteristics and compliance with planning requirements. Chapters seven and eight present findings on cost and benefit of the requirements respectively. Chapter eight additionally evaluates the economic incentives/disincentives of Ghana's planning regime. Chapter nine, the final chapter summarises the study's findings, and outlines its conclusions, recommendations, limitations, contribution to knowledge and areas for its further extension.

1.9 Chapter Summary

This chapter focused on general introduction to the study and discussed its overview. It outlined the background to the study, the research question, aim, objectives and the approach that was used to undertake the study. The chapter further gave the scope for the study and its relevance. Finally, the chapter demonstrated how the thesis has been organised. The next chapter outlines the conceptual framework for the study.

Chapter Two

Conceptual Framework

2.1 Introduction

Compliance with ULUP regulations constitutes a core component of any successful planning system (see McKay, 2003; Buitelaar *et al.*, 2011). Compliance with regulations can be voluntary or involuntary. Involuntary compliance with regulations is expensive since it requires enormous resources and strong institutions. Besides, its processes usually do not achieve desired outcome (Sutinen and Kuperan, 1999). Voluntary compliance with planning regulations based on incentives is said to achieve optimum results (see Malpezzi and Mayo, 1997; Lai *et al.*, 2007). The success of ULUP regulations, thus, depends to a large extent on voluntary compliance based on incentives. To trace its consequences, there is a need for a lens to perceive the levels of incentives to promote voluntary compliance and how successful voluntary compliance can be achieved. Economic theories help to draw insights from real world behaviours. The Austrian economics theory of human action provides an effective explanation of voluntary compliance premised on incentives. Based on the research background in chapter one, this chapter proceeds to devise a conceptual framework for the study using insights from the human action theory. The chapter initially discusses the ULUP concept and the economic rationale for planning as building blocks to the development of the conceptual framework for the study.

2.2 The ULUP Concept

Though ULUP is considered as old as human settlements themselves and had existed in several forms in various communities over the world (UN-Habitat, 2009a), formal ULUP emerged in Western Europe and North America at the turn of the nineteenth century and spread across the globe. This was pursuant to the adverse effects of industrialisation and urbanisation following the industrial revolution (Dale and McLaughlin, 1999; Rakodi, 2001; UN-Habitat, 2009a; Watson, 2009b). The spread of ULUP was, in the main, through importation of ULUP ideas and colonialism (Nadin, 2007; Nadin and Stead, 2008; UN-Habitat, 2009a). However, ULUP is conceived as an intricate and constantly evolving concept, which is a manifestation of its historical response to the prevailing environmental, economic and socio-cultural challenges that existed at the time of its

emergence (Thompson, 2007; Baffour Awuah *et al.*, 2010). Various terminologies depending on the jurisdiction are often ascribed to ULUP (Gleeson and Low, 2000a; Thompson, 2007). Names such as town and country planning, physical planning, and regional and urban planning, and spatial planning are usually used in the extant literature to describe it. For example, ULUP was referred to as town and country planning in the UK, but has recently been reformed into spatial planning (see Nadin, 2007; Shaw and Lord, 2007, 2009). In Continental Europe, and the USA and North America, it is referred to as spatial planning, and regional and urban planning respectively (Thompson, 2007). Several definitions of, and meanings for, ULUP are also encountered in the literature.

One of the earliest and commonest definitions given by Keeble (1959: p9) states that ULUP is:

“The art and science of ordering the use of land and the character and siting of buildings and communication routes so as to secure the maximum practicable degree of economy, convenience and beauty.”

Keeble (1959), in giving the definition underscored the difficulty of having a comprehensive definition for planning. Earlier, Brown and Sherrard (1951) had also intimated the dangers involved in attempts at comprehensive definition of planning. However, Gleeson and Low (2000) define ULUP as a governance activity with the responsibility of ensuring that all services that people need in a city are provided when and where the need occurs. Healey (2004), conversely, intimates that planning is a self-conscious collective effort of imagining or reimagining a town, an urban region or a wider territory and conveys the result into priorities for area investment, conservation measures, new and upgraded areas of settlement, strategic infrastructure investments and principles of land use regulations. Healey (2004) further states that planning is also a mode of governance driven by articulation of policies through some form of deliberative process and judgment of collective action in relation to these policies.

More recently, ULUP has been conceived as an exercise that goes beyond traditional land use planning, perhaps as defined by Keeble (1959), to bring together and integrate policies and programmes, which influence the nature of places and how they can function (see Nadin, 2007; GoG, 2009). This ULUP exercise is, however, categorised into two different parts namely ULUP and ULUP regulations (Watson, 2009b). According to Hopkins (2001), ULUP provides information with respect to expected outcomes devoid of influencing the scope of permissible actions directly. Regulation, conversely, connotes

enforceable assignment and re-assignment of rights, which influences the scope of permissible actions (see also Kim, 2009). ULUP from this stand point, therefore, entails the process by which decisions in respect of global configuration of a city and its projection for expansion are taken. These decisions are usually presented in a plan, which serves as a reference framework for the application and the use of regulations (Farcquave and McAuslan, 1992), while regulations are the vehicle by which ULUP is prosecuted.

The decision making process can be conceived in various forms, such as the traditional rational comprehensive or master planning, collaborative/communicative, Just City and multi-culturalist planning models (see Section 3.4).

ULUP regulation also occurs in various forms (Mayer and Somerville, 2000) and is defined severally (see Farcquave and McAuslan, 1992; Arimah and Adeagbo, 2000; Payne and Majale, 2004; Tiesdell and Allmendinger 2005; Kironde, 2006). What is, however, discernable from these studies is that ULUP regulations are sets of interconnected legal and semi-legal instruments and techniques prescribed by an authority that specify or prohibit certain behaviours to safeguard, regulate, conserve and disburse land in the interest of an entire community, health, safety, convenience and good environmental condition. It, therefore, stands to reason that ULUP regulations encompass: policy documents; laws and legislations; orders-in-councils; proclamations; notices; guidelines; ministerial directives, which specify what development is permitted on urban land; standards that outline the official level of quality that land and housing development should conform; administrative processes and procedures that set out official steps that all urban developments must follow for them to be acceptable; and financial auditing of ULUP (see Farcquave and McAuslan, 1992; Payne and Majale, 2004; Kironde, 2006).

Given the foregoing discussions, it is evident that there appears to be a lack of consensus on the definition of ULUP. Consequently, as indicated in the glossary, this research adopts the definition given by UN-Habitat (2009a) for planning system. This definition states, *inter alia*, that: ULUPS is a collection of agencies, procedures, instruments and protocols that are often sanctioned by the formal state, backed by formal law and linked especially to rights to develop and use housing, land and property. This definition was adopted because of its extensiveness and direct relevance to the subject matter of the study.

2.3 Economic Rationale for ULUP

Basic economic doctrine postulates that to achieve economic growth and development, society should ensure efficient allocation of its land resource (see Harrison, 1977; Kula, 1997; Corkindale, 2004). While the idea of efficient resource allocation is open to debate, perhaps the widely accepted definition is the one given by Vilfredo Pareto (1843-1923). This definition considers resources to be efficiently allocated if it at least improves the welfare of one person in a society without rendering another person worse off. That said neo-classical economics premised on pure price operated market as espoused by Smith (1776) had suggested that market as an institution is the most appropriate mechanism to ensure efficient allocation of scarce societal resources including land (Harrison, 1977; Hayek, 1983; Adams *et al.*, 2005; Adams, 2008; Qian 2010). This economic framework works on rational choice principle. Therefore, it professes that parties to a transaction in a market setting driven by their self-interest will make rational decisions to promote efficient allocation of resources (Harrison, 1977; North, 1995; Bramley, 1993; Evans, 1993; Bramley and Watkins, 1996; Adams, 2008). That is, driven by incentive of profit revealed through price signals in a market, economic agents in a rational manner will allocate their scarce resources to ensure overall efficient resource allocation towards growth and development of society.

Based on this neo-classical economic thinking several studies both theoretical and empirical particularly in the developed world, such as Tiebout (1956), Harrison (1977), Bramley (1993), Bramley and Watkins (1996), Bramley and Leishman (2005), Brueckner (2007) and Ihlanfeldt (2007) have examined ULUP as an interventionist activity in the urban property market. The crux of most of these studies, which have often occurred in the housing genre, has been to determine whether or not ULUP constrains the urban property market in its quest to promote efficient allocation of land resources and the implications thereof. However, the assumptions underlying pure price operated markets may not be reflected in real markets (Harrison, 1977; North, 1981, 1995; Alexander, 1992; Klosterman, 2003 Adams *et al.*, 2005; Adams, 2008; Qian 2010).

In addition to economic agents making rational decisions, pure price operated market theory assumes identical commodities and availability of sufficient information based on which rational choices are made. Other assumptions are existence of perfect mobility of production, labour and consumption and choice of buyers are unaffected by preferences of others (Harrison, 1977; Alexander, 1992; Klosterman, 2003). Conversely, in the real

world economic agents rarely act based solely on rational models because they often patronise shirking and opportunism (Williamson, 1985, 1994; Lai, 2005). This creates a problem of risk and uncertainty in human exchange (North, 1981, 1995). Besides, there is lack of perfect information in real markets based on which rational choices can be made if at all they will be made (Stigler, 1971; Harrison 1977; Alexander, 1992; Stiglitz, 2002; Klosterman, 2003). It is argued for example, that in the real world, institutions such as property rights are not clearly defined (Demsetz, 1967; Alchian and Demsetz, 1973). Consequently, the market fails in efficient allocation of societal resources (Pigou, 1929, 1932; Harrison, 1977; North, 1981, 1995; Klosterman, 2003; see also Buitelaar, 2004; Adams *et al.*, 2005; Adams 2008).

Such market failure in the urban property market is associated with negative externalities including incompatible land uses, environmental degradation and non provision of public goods like public parks and roads requiring intervention of ULUP regulation (see Pigou, 1932; Harrison, 1977; Klosterman, 2003; Lai, 2005; Adams, 2008). Ratcliff (1949), for example, notes that under pure price operated urban property market natural land use zoning emerges with maximum benefit to urban property owners. However, this results in unpleasant arrangement of land uses and haphazard development due to poor judgment of land and real estate owners, individuals acting on self interest, existence of relative indifference use locations and the existence of short term advantages with certain locations. Therefore, since the market is not perfect the city planner should determine the most advantageous groupings of land uses and enforce them through zoning ordinance.

Thus, in practice pure price operated urban property markets by themselves have proved incapable to promote efficient allocation and economic use of society's land resources and require ULUP regulation intervention. Even avowed capitalists like Hayek (1944), Popper (1945), Friedman (1962), Mundell (1968) and Nozick (1974) accept the need for some form of ULUP in allocating land resources, though they continue to vehemently warn against outright supplanting of the market with central planning. Hayek (1944 p. 40), for example, observes that:

“Thus neither the provision of signposts on the roads, nor, in most circumstances, that of the roads themselves, can be paid for by every individual user. Nor can certain harmful effects of deforestation, or of some methods of farming, or of smoke and noise of factories, be confined to the owner of the property in question or to those who are willing to submit to the damage for an agreed compensation. In

such instance we must find some substitute for the regulation by the price mechanism.”

2.3.1 Conventional Justification for ULUP

In accordance with the preceding discussions, economic justification for ULUP intervention in the urban property market, therefore, is fundamentally constructed on Pigou (1929, 1932) welfare market failure orthodoxy (see Lai, 2005; Mulherin, 2007). This market failure orthodoxy has, however, been expanded and popularised by the likes of Klosterman (2003), Cheshire and Shepherd (2002, 2004), Fainstein (2003), Evans (2003), Lichfield *et al.* (2003), Adams *et al.* (2005) and Adams (2008). In essence, ULUP intervention of the urban property market from this welfare economics standpoint is premised on the rationale that every public action should maximise collective interest or efficiency (see Pinkerton *et al.*, 2002; Campbell and Marshall, 2002; Khakee, 2003).

Several arguments have been advanced as underpinnings of the idea of maximisation of societal interest or efficiency (see Moroni, 2006; Cheshire and Vermeulen, 2008), but the main factor, is utilitarian considerations (Garber *et al.*, 1996; Pinkerton *et al.*, 2002; Khakee, 2003). The genesis of utilitarian considerations is traced to Greek Philosopher Epicurus (342-270 BCE), but it took explications of classical utilitarianists like Jeremy Bentham (1748 – 1832) and John Stuart Mills (1806-1873) to popularise these utilitarian thoughts (Ryan, 1987; Pinkerton *et al.*, 2002). The utilitarian calculus, in the main, confers that action is assessed on its production of happiness and otherwise; action's production of utility and disutility. However, the concepts of utility and disutility were conceived as measurable in discrete units and, thus, subject to mathematical analysis. Therefore, the judgment of an action is carried out intuitively by comparing its accumulation of utility known as welfare and disutility also known as cost. Consequently, an action is judged right when it produces greater utility compared to its disutility; promotes welfare more than cost (Garber *et al.*, 1996; Pinkerton *et al.*, 2002).

Economic analysis of ULUP as a public interventionist action from the welfare economic standpoint, thus, examines the extent to which it promotes social welfare as against social cost. That is, the extent to which ULUP in the urban property market ensures allocative efficiency (see Buitelaar, 2004; Adams *et al.*, 2005; Cheshire and Vermeulen, 2008; Adams 2008). Similarly, various studies predominantly in the developed world, such as Bertaud and Malpelzzi (2001), Bertaud and Brueckner (2003), Cheshire and Shepherd (2002, 2004, 2005) and Cheshire and Vermeulen (2008) using these insights have sought

to examine the extent to which ULUP promote societal welfare or allocative efficiency. This traditional basis for ULUP intervention of the urban property market has come under serious criticism for its public interest claims (see Campbell and Marshall, 2002; Lai, 2005). In fact, public regulation of urban property market through ULUP is based on the presumption that the public authority charged with the responsibility for regulation will act in the best interest of society (Bertaud and Malpelzzi, 2001; Khakee, 2003).

However, advocates of public choice economics argue that the rationale for intervention is to facilitate private interest rather than to address failure of the market to allocate societal scarce resources efficiently (Stigler, 1974; Posner, 1974; Niskanen, 1994). It is explained that majority of people do not consistently follow political processes, and may not even have resources to do so. Therefore, the few interest groups who are interested in political processes and have the resources determine the direction of regulation. Thus, because politicians are driven by their quest to be in power and interest groups hold the key to their success, politicians respond to their request through regulation in turn for their support (Tullock, 1967; Posner, 1974; Niskanen, 1994; Carnis, 2009). To this extent, intervention of the urban property market through ULUP can be seen to satisfy the interest of minority groups and, thus, potentially further exacerbate the market failure problem (see Benson, 1981; Evans, 2003; Quigley, 2007). Even so, Evans (2003) argues further that though insights from public choice economics are imperative, analysis of ULUP processes based on these insights lacks predictive power. Besides, economic analysis of ULUP intervention in urban property market from public choice economics standpoint has in the main remained theoretical due to empirical data difficulties (see Quigley, 2007).

2.3.2 Emerging Case for ULUP

Following insights from Coase (1960) though earlier misconstrued to mean the demise of market intervention, and others, such as Demsetz (1967) and Alchian and Demsetz (1973) it is now emerging that market failure itself is caused by the existence or magnitude of transaction cost (see Lai, 2005; Qian, 2010). Applying insights from transaction cost and property rights economics, Coase (1960) demonstrates that neo-classical economics had earlier assumed zero transaction cost signifying a simple production function. However, transaction cost in real markets is not zero. For example, as noted previously there is information asymmetry in real markets. This means that economic agents incur cost to obtain information for decision-making purpose. This potentially can result in market failure. Therefore, ULUP is now being justified from a property rights and

transaction cost economics perspective. This justification is based on creation of institutions, such as clearly defined property rights to aid efficient functioning of the urban property market to reduce transaction cost (Alexander, 1992; Barzel, 1997; Pena, 2002; Webster and Lai, 2003; Buitelaar, 2004; Lai, 2005; Musole, 2009). For example, this could be outlining the permitted size and use of land through zoning regulation.

Consequently, economic analysis of ULUP from the foregoing is premised on the idea that ULUP fails if the cost of creating and managing such institutions are more than their benefits. Thus, while welfare economics justification for ULUP is based on allocative efficiency, this emerging economic justification for ULUP intervention in urban property market concentrates on process efficiency (Buitelaar, 2004; Lai, 2005). Even so, the justification of ULUP intervention for provision of information to aid efficient functioning of the urban property market has long been and continues to be questioned. It is argued that regulators (planners) themselves have no adequate knowledge about societal land use requirements (see Hayek, 1945; 1976, 1983; Pennington, 2000; Staley, 2004).

Emphasising the lack of knowledge problem, Lavoie (1985) demonstrates that there are two types of knowledge; articulate and inarticulate knowledge. Articulate knowledge is information that can be objectively measured and can be accessed from market surveys, interview guides and questionnaires. In the urban property market such information may include, for example, size, topography and location of a land (see Staley, 2004). The inarticulate knowledge otherwise known as implicit knowledge, conversely, reflects the complexities of consumer behaviour (see Staley, 2004). It is, thus, very difficult if not impossible to objectively measure. This makes planners' knowledge on society's land resource needs inadequate. Besides, the concept of transaction cost though conceived as all cost outside physical production (Webster and Lai, 2003; Buitelaar, 2004), is very elusive. To date, there is even no consensus on the definition or measurement of transaction cost (see Buitelaar, 2004; Musole, 2009). Questions, such as, can the clothes worn by a managing director of a firm to the office and the pen used by him to sign a contract be classified as part of transaction costs? Indeed, it has been described as a misnomer since there are two main types of costs in economics; cost and opportunity cost (Hülsmann, 2004). Given these discussions, it appears unclear the economic rationale for ULUP.

2.4 Towards Development of a Conceptual Framework

The preceding discussions demonstrate that there is lack of consensus on the economic basis for ULUP intervention in the urban property market particularly in a capitalist society. However, ULUP as noted in (Chapter 1) and acknowledged by avowed capitalists has become an indispensable tool for socio-economic development of societies. Nevertheless, the success of any ULUP regime is dependent on compliance with regulations that underpin the regime (see Webster, 1998; McKay, 2003, 2007; Buitelaar *et al.*, 2011). Compliance with ULUP regulations means land users or developers acting in a manner that is consistent with regulations (Lai *et al.*, 2007).

However, there is a range of factors that determines whether people will direct their actions in compliance with regulations. Consequently, with a full understanding of the factors that motivate people to act in a particular way, it is possible to fairly predict compliance even before regulation is formulated. People could either be compelled by coercive force accompanied by a threat of sanctions or violence to act in a particular way (Scholz, 1997; Tallberg, 2002). Alternatively, people could be impelled by incentives to behave or act in a particular way. Studies, such as Pogodzinski and Sass (1990), Malpezzi and Mayo (1997), Pejovich (1999), Tiesdell and Allmendinger (2005), Lai *et al.* (2007) and Buitelaar (2011) have provided insights on how incentives can be used to promote compliance with ULUP regulations.

Threat of sanctions to ensure compliance with regulations; involuntary compliance is based on traditional deterrent philosophy (McKay *et al.*, 2003). This philosophy is premised on certainty and severity of sanctions as predictors of compliance with regulation. Thus, compliance with regulation is expected to be high where there is the greater likelihood that violation will be detected, and expeditious, certain and huge sized sanction will be imposed (Sutinen and Kuperan, 1999; Winter and May, 2001). Therefore, to promote compliance, regulations must be unambiguous and agencies charged with the responsibility of enforcement will have to control regulated entities through a comprehensive programme of monitoring, surveillance and enforcement. This can be executed through competent judiciary system with up-to-date courts and effective public machinery with proactive leadership, adequate and competent staff, and logistics, among others things, to detect violation and implement threats of sanctions to ensure compliance albeit with huge financial costs (see Tallberg, 2002). Sutinen and Kuperan (1999) note that compliance with regulation based on deterrent philosophy is the most

costly item in natural resource management programmes accounting for 25% to over 50% of all public expenditures.

This suggests that jurisdictions with very weak and unreliable justice systems and public administrative set ups have limited prospects of achieving compliance with ULUP regulations entirely based on deterrent enforcement model. In SSA the judicial and court systems are weak and under resourced (GOA, 2004; Keith and Ogundele, 2007; Platteau, 2009). Besides, they are plagued with bureaucratic and complex court procedures, high cost of litigation, corruption and ineptitude (Platteau, 2009). Similarly, ULUP institutions in the sub-region are weak, under-resourced both in terms of human and material resources and suffer from political interference in the execution of their functions (see UN-Habitat, 1999, 2009a; Rakodi, 2001, 2006b; Mwimba, 2002; Kironde, 2006; Aribigbola, 2007; GoG, 2009). This coupled with unwieldy legislative mechanism where colonial legislation operate side by side with new laws and customs of the people, has made authorities charged with enforcement of regulations to turn a blind eye to non-compliance with regulations to eschew confrontation or promote compromise (Blocher, 2006; Platteau, 2009; see also Rakodi, 2006c: p 278).

Even in developed jurisdictions such as the UK where there is comparatively better justice and public administration systems, studies like McKay (2003), McKay *et al.* (2003), McKay (2007), Lai *et al.* (2007), Harris (2010) assert that enforcement of planning regulations is weak due partly to poor detection of violation, lack of financial resources and discretion in enforcement. Additionally, it is argued that the deterrence model does not explain the available evidence very well and its prescriptions are usually not practical since expected small sized sanctions do not always result in non-compliance (Sutinen and Kuperan, 1999).

Given the foregoing discussions, voluntary compliance with regulations based on incentives should, thus, be given a large scope in any system of ULUP in SSA if it should have any chance of success. What constitutes incentives at a particular point in time and jurisdiction as well as its sustainability is usually milky (see Pejovich, 1999; Buitelaar, 2011). Also incentive may be contrived or instinctive. To utilise contrived incentives, ULUP and urban development regulations must ensure appropriate levels of incentives to impel people to act in compliance. This, for example, may be construed as reduction in title formalisation cost or assistance with cost of developments to ensure compliance with ULUP regulations. Undoubtedly, promoting this type of incentives' could be very difficult

and expensive as was the case with such schemes in countries like Uganda, Nigeria, Botswana and Kenya, which had to be abandoned due to their huge cost implications (UN-Habitat, 1999; see further Section 3.2.2).

Instinctive incentives, therefore, offer the more feasible option with a greater likelihood of achieving maximum compliance with ULUP regulations. That is, regulations stand the greater chance of being complied with, if they incorporate large doses of instinctive incentives. The human action theory offers an effective explanation of instinctive incentives towards voluntary compliance with ULUP regulations in SSA and is, thus, employed to devise a conceptual framework for the research. The choice of the human action-based framework also allows the quantification of individuals' choices towards contributing to the wider ULUP policy debate given the argument of public choice economics scholarship that the rationale for ULUP is to advance private interest (see Section 2.3.2).

2.5 The Human Action Theory

Human action theory is a praxeological concept that emerged from a branch of political economy usually regarded as Austrian economics (Mises, 1949; Hoppe, 1995; Hülsmann, 2004; Kinsella and Tinsley, 2004; Rothbard, 2004; Carnis, 2009). The theory had long been associated with the core elements of the 1870's economic revolution by Menger (1871), Jevons (1871), and Walras (1877) (see Baird, 1998; Vernon, 1999; Rothbard, 2004). However, it was Mises (1949) in *Human Action: A Treatise* who coordinated insights of the theory and formally presented it as an integrated theory. Essentially, human action theory postulates that every human being acts and, from the economic perspective, acts instinctively to achieve a desired end in the cheapest and best possible way if able to do so (Mises, 1949; Greaves; Rothbard, 2004). For example, a prospective residential property owner will act in the cheapest way either to construct or buy fully developed property. Therefore, from the standpoint of human action theory, economic propositions should focus entirely on individuals and not groups since groups, such as companies and clubs do not act as such. Rather, it is individuals among the groups who act on behalf of the group (Mises, 1949; Greaves, 1949; Rothbard, 2004). Thus, there is no group action which does not emanate from individuals (Mises, 1949; Greaves, 1949).

Human action is defined as a purposive behaviour of using means to achieve a desired end (Mises, 1949; Rothbard, 2004; Kinsella and Tinsley, 2004; Carnis, 2009). Human action is, thus, distinguishable from mere reflexes and behaviours (Mises, 1949;

Rothbard, 2004; Kinsella and Tinsley, 2004; Facchini, 2007). It, therefore, follows that an action occurs within a means and end framework (Menger, 1871; Baird, 1998). However, the rationale for institution of an action by individuals is to substitute a more satisfactory state of affairs for a less satisfactory state of affairs (Mises, 1949; Greaves, 1949; Baird, 1998; Rothbard, 2004).

A fundamental principle in economics subscribes that people or economic agents act in direct response to incentives (Mankiw, 2011). That is, for individuals to act they must be impelled by incentives (Mises, 1949; Greaves, 1949; Rothbard, 2004). For example, for land or property owners to use their lands or properties in a particular way there must be an incentive to impel them to use them as such. Since human action takes place within a means and ends framework, individuals intuitively compare the value of ends with the value of means or resources used up or to be used in an action. The positive difference between the values of ends sought by an action and the means deployed to accomplish an action constitutes the prime incentive that drives an action (Mises, 1949; Greaves, 1949; Baird, 1998; Rothbard, 2004).

The value of means or resources used up in an action to arrive at ends constitutes the cost of an action whilst the value of ends sought by an action represents the anticipated benefit from an action (Mises, 1949; Baird, 1998; Rothbard, 2004; Kinsella and Tinsley, 2004). What is noteworthy, however, is that individuals speculate the difference between the value of means used or to be used in an action and the value of ends sought by an action. Thus, individuals speculate the difference between the cost and benefit of action (Mises, 1949; Greaves, 1949; Rothbard, 2004; 2004). For example, developers in putting their land resource into a particular use will speculate the difference between the value of resources to be expended and the value of that land use to determine whether it is worthwhile to do so. This, therefore, makes perception important as well as crucial in the determination of the kind of action human beings will take (Baffour Awuah *et al.* 2011a, 2011b, 2011c).

Human action further holds that means in actual sense exist in the universe as elements and not as means properly so called. As such, it is only when human beings are able to conceive these existing elements in the universe as important or relevant to the achievement of ends that they become means (Mises, 1949; Greaves, 1949; Rothbard, 2004; 2004). In other words, it is the ability of human beings to establish a cause and effect relationship between elements in the universe and the ends they are desirous of

attaining. Rothbard (2004) likens this conception of means to discovering technology in the sense of production.

Given the foregoing discussions, it is clear that human action is contingent on incentives, which is determined through speculation of the difference between the values of means and ends. Additionally, the means applied to attain the ends can be discovered only when human beings are able to establish a cause and effect relationship between them on one hand and the ends sought on the other. This implies that, for there to be incentives to impel an action, means must be discovered: cause and effect relationship between some elements in the universe and the ends being sought must be established. In effect, this further suggests that incorporated in human action are incentives borne out of speculation that the value of the ends for which an action is directed is more than that of the means deployed, and upon the initial discovery of means. This again presupposes that where means are not discovered there cannot be incentives and without incentives, an action cannot be activated. Even in situations where means are discovered, but are not available an action cannot be activated because it implies lack of incentives.

Fundamentally, insights of the human action theory constitute the bedrock of Austrian economics (Bratland, 2000; Kinsella and Tinsley, 2004). However, apart from Austrian economics, aspects of the insights from human action theory have been applied in several fields of endeavours including political ethics (see Hoppe, 1989) and legal theorising (see Barnett, 1997; Kinsella and Tinsley, 2004). Even in the field of ULUP there has been application of aspects of the theory in Hong Kong (see Lai *et al.*, 2007) and in the USA (see Staley, 2004). However, this is the first time that the theory is being applied to examine the SSA ULUP question. The question that arises, therefore, is: how is the theory applied to analyse compliance with ULUP regulations? And what will be its consequences?

2.6 Application of the Human Action Theory

Despite the lingering debate on economic rationale for ULUP, it is generally accepted that state intervention in the urban property market through ULUP is to address market failure by reducing negative externalities and promoting positive externalities (Klosterman, 2003; Evans, 2003; Lichfield *et al.*, 2003; Adams *et al.*, 2005; Qian 2010). Therefore, it is expected that ULUP will ensure health, safety, convenience, economy, amenity and aesthetics (Keeble, 1959; Gurran *et al.*, 2008). These expectations of planning as demonstrated by Figure 2.1 ultimately manifest themselves in property value appreciation

(Fischel, 1990; Lai *et al.*, 2007). However, in practice ULUP is exercised through ULUP regulations (see Payne and Majale, 2004; Tiesdell and Allmendinger, 2005; Adams, 2008). This means that to achieve expectations of ULUP and ultimately derive appreciation in property values there must be compliance with ULUP regulations. Compliance with ULUP regulations signifies performance of regulations requirements. These include zoning and preparation of sub-division planning schemes, acquisition of building permit and provision of infrastructure, among others (see Bertaud and Mapelzzi, 2001; Cheshire and Sheppard, 2004; Buitelaar, 2004; Lai, 2005; Cheshire and Vermeulen, 2008).

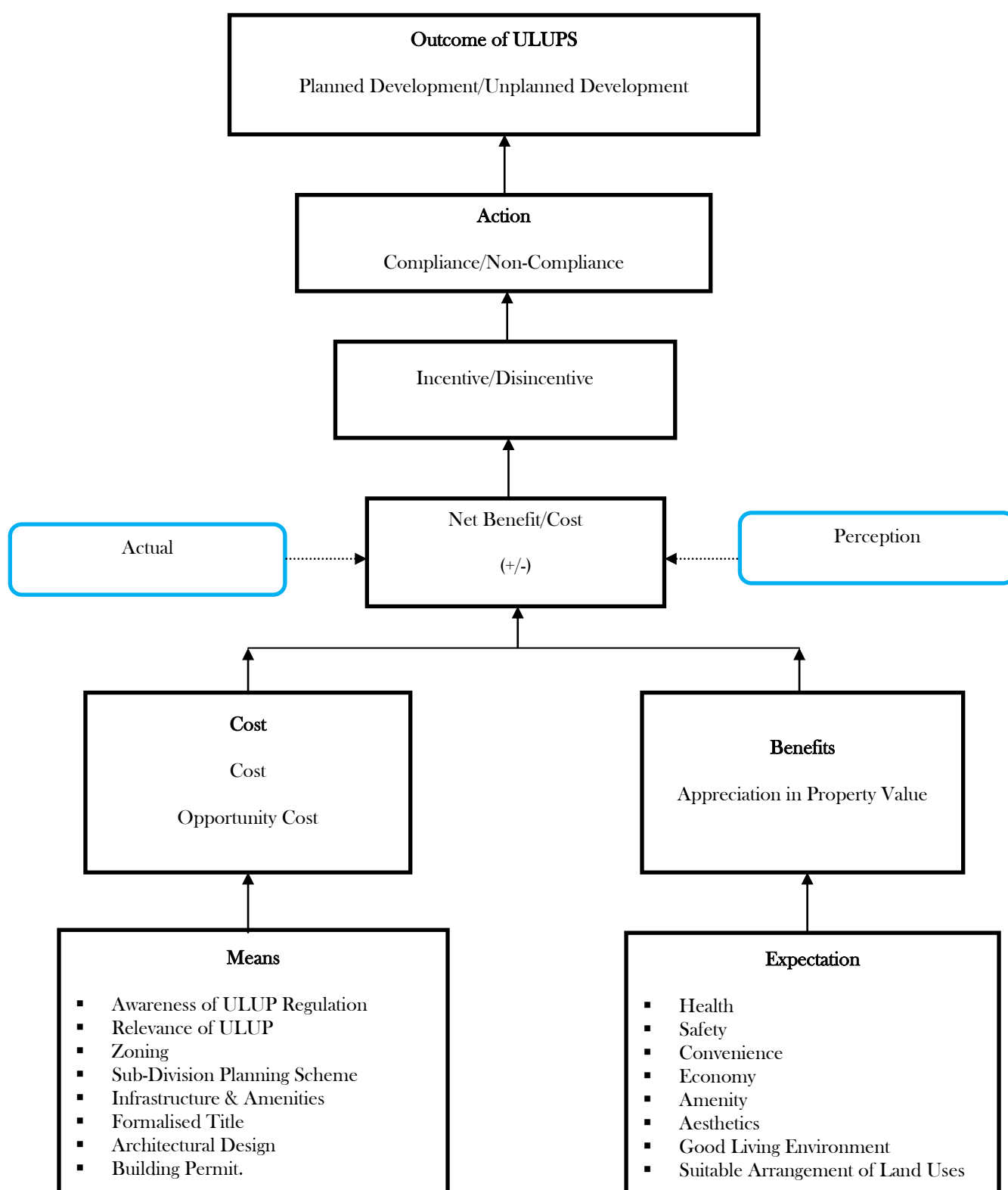


Figure 2. 1 Conceptual Framework for ULUP.

Source: Derived from Mises (1949)

Thus, from human action theory standpoint and in the context of this study, compliance with ULUP regulations constitutes human action. This in effect signifies that meeting the requirements of ULUP regulations, such as zoning and preparation of sub-division plans, provision of infrastructure and acquisition of building permit constitute human action. To this extent, therefore, the value of the ends to which compliance with these ULUP regulation requirements is directed; expectation of ULUP reflected in appreciation in property values constitutes benefit of ULUP while the value of the resources used in meeting the requirements constitute cost of ULUP (see Figure 2.1).

Insights from human action theory further suggest that for human beings to act, they must be impelled by incentives. That is, there must be a positive difference between the cost and benefit of action otherwise known as prime incentives. As applied to ULUP this means that for property owners/developers/land users to comply with ULUP regulation requirements, the benefit of compliance with these requirements should exceed the cost of meeting these requirements. This means that for there to be compliance with regulations appreciation in property value resulting from meeting the requirements of regulations must be more than the cost of meeting the requirements of regulations.

However, in accordance with postulates of human action for there to be incentives to impel individuals to act, there is a need for individuals to establish a causal relevance between some elements in the universe and the ends to which action is directed. That is, means must be discovered. The implication of this postulation in the context of this research is that property owners/developers must first of all be aware of ULUP regulations; ULUP and its relevance to their ends of property value appreciation or socio-economic development (see Winter and May, 2001). In other words, the conception of ULUP regulation as means to the achievement of their ends.

In addition, implications from insights of the human action theory reveal that even where means are established, but are not available action cannot be instituted since it implies lack of incentives. This, as applied to ULUP suggests that where property owners/developers perceive positive outcome with respect to cost and benefit of compliance with ULUP regulations requirements yet do not have the means or the resources to meet them, there will not be incentives to comply with them (see Winter and May, 2001).

Given these insights from human action theory as applied to ULUP, the logic of the analytical framework for the research as depicted by Figure 2.1 suggests that where an

ULUP regime provides incentives there will be compliance with the regime's requirements. This will, therefore, lead to planned developments devoid of unauthorised and slum settlements and with provision of infrastructure and amenities. Conversely, where an ULUP regime does not provide incentives, there will be disregard for its requirements. Consequently, the outcome of such an ULUP regime will be lack of planned developments with unauthorised developments, and lack of infrastructure and amenities.

It is also imperative to acknowledge that the insights from the human action theory as espoused herein are criticised as subjective because the cost and benefit are relative to individuals who may perceive them differently (see Lai, 2005; Egbu *et al.*, 2008). However, objectivity itself may first be derived from subjectivity (see Kim, 2009). Therefore, this research being the first of its kind needs to proceed on this basis. Besides, substantial aspect of this research dwells on representatives of property owners/developers to obtain data. This practice is found to reduce subjectiveness and biases in research (Lusk and Norwood, 2009). Additionally, extensive use is made of statistics to establish common trends.

2.6 Chapter Summary

This chapter devised a conceptual framework for the research. It initially examined the concept of ULUP and economic rationale for its intervention in the urban property market. The chapter established that there is a seemingly lack of consensus on the economic rationale for ULUP. Nevertheless, as important as ULUP is to the socio-economic development of societies, its success is so much dependent on compliance with its regulations. However, given the ineffectiveness of justice and public administration systems, and ULUP institutions in SSA, involuntary compliance, which is based on coercive force, is not likely to succeed in the sub-region. Rather, voluntary compliance with ULUP regulations based on instinctive incentives is more likely to succeed. The Austrian economics theory of human action was used to conceptualise voluntary compliance with regulations based on instinctive incentives. The next chapter interrogates the relevant literature on ULUP in SSA based on insights from the theory.

Chapter Three

sub-Saharan Africa Urban Land Use Planning Regimes

3.1 Introduction

Planning systems are prone to failure where ever they are in the world. The non-compliance with planning conditions in the UK (see McKay, 2003; Lai *et al.*, 2007), the sprawling of USA cities (see Schmidt and Buehler, 2007; Ihlanfeldt, 2009) and the problems with implementation of smart growth policies in Canada (Filion and McSpurren, 2007) continue to receive attention in the planning literature. However, it is the percuriality of the weakness of planning systems in SSA and the recognition of the role of planning in socio-economic development that makes it an issue for serious interrogation. Having, therefore, crafted the conceptual framework for the study, this chapter evaluates the relevant literature on ULUP in SSA with discussions on Ghana. The chapter discusses nature of SSA ULUP regimes, their state – low compliance with planning regulations and its determinants, and the current efforts being made at re-engineering planning regimes in the sub-region to produce optimum outcomes.

3.2 Nature of SSA ULUP

There is evidence that there was some form of settlement planning in parts of SSA prior to Western Europe's colonisation of Africa at the turn of the nineteenth century. Some parts of SSA particularly West Africa had rich urban tradition prior to colonialism (see Mabogunje, 1968, 1990; Wekwete, 1995; Konadu-Agyemang, 1998; Njoh, 2004; Rakodi, 2006a). Urban centres such as Timbuktu in Mali and Zanzibar in Tanzania were already major trading centres with their own spatial configuration (Mabogunje 1990; Wekwete, 1995; Njoh, 2004). Evidence of planning also exists in some settlements in Ghana (see Meyerowitz, 1951; Wilks, 1959; Effah-Gyamfi, 1975; Farrar, 1996) and Nigeria (see Arimah and Adeagbo, 2000). Findings from archeological and other in-depth studies suggest that settlement planning among the Akans, the largest tribe in Ghana dates back to about 3,500 years or more ago (Farrar, 1996).

Though rudimentary at this early stage, planning was implemented by traditional leaders in concert with their people and their customs towards socio-economic development albeit underpinned by human action. Planning in Ghana during this period was, for example, used by traditional leaders as a land management tool to achieve overall soci-

economic development (Barbot, 1732; Domfeh, 2001). Barbot (1732) notes that coastal Akan settlements during this period were crooked, irregular and ended up at wide open spaces, which were used as markets and meeting grounds for deliberation on the wellbeing of the settlements. Furthermore, developments were clustered and occupied by related lineages with small lanes and streets in between them. These spatial arrangements were strictly followed by members of these settlements. The rationale was to reduce cost in terms of travel time to pursue economic and related activities at the centre and defend communities' against external aggression (Barbot, 1732; Farrar, 1996).

Related account on spatial arrangement of pre-colonial Yuroba settlements in Nigeria (see Arimah and Adeagbo, 2000), which were more akin to those of the Akan Bonos and Asantes in Ghana (Wilks, 1959; Effah-Gyamfi, 1975) was in pursuance of the same goals as the coastal Akan settlements. These Yuroba, Bono and Asante settlements, which were also strictly adhered to had the palaces of their traditional leaders at the centre of the settlements with vast open space at the frontage for markets and dubar grounds. Besides, one main road, which led to the palaces of the traditional leaders at the centre, divided these settlements into two parts. Given these discussions, it can be surmised that since planning was undertaken in accordance with the customs of the indigenous people and they were also involved in the planning process, they were aware of its requirements and relevance to the achievement of their security and source of livelihood. With perception of these benefits being comparatively more valuable, it created incentives for them to stick to those spatial arrangements, hence a reflection of human action (see Antwi, 2000).

From the standpoint of SSA evolutionary land tenure thesis (see Atwood, 1990; Platteau, 1992; Yngstrom, 2002; Hammond, 2006), since planning is a feature of land markets, it is conceivable that these indigenous planning practices would have evolved overtime. Nonetheless with the advent of colonialism the indigeneous planning arrangements were truncated.

3.2.1 Colonial ULUP Regimes

Formal ULUP in SSA was instituted by Western European colonialists particularly the British, French, Portuguese, Germans and Belgians (UN-Habitat, 2009a; Watson 2009a, 2009b; Baffour Awuah *et al.*, 2011c). As noted earlier (see Section 2.2) planning had emerged in Western Europe and North America in response to adverse effects of industrialisation and urbanisation; imperfections of the urban property market. This was the epoch when Western Europe had colonised Africa (Rakodi, 2001). Therefore,

planning arrangements that existed in Western Europe were parachuted into Africa (Mabogunje, 1990; Home, 1990; Njoh, 1997, 2004, 2009; Rakodi, 2001; Musandu-Nyamayaro, 2008, UN-Habitat, 2009a).

Unlike Western Europe and North America, planning was used as a cheaper means to achieve the ends of Western European colonialists –health, political and economic aims, which are manifestation of human action. Western Europe’s colonisation of Africa was to exploit the continent’s resources (Nkrumah, 1970; Rodney, 1972; Amin, 1972; Mabogunje, 1990; Njoh, 2004, 2009). Though Western Europe’s association with Africa was much earlier in time through trade and had established some structures, which later became the nucleus for colonisation (Njoh, 2009), the continent was not opened up for exploitation. Furthermore, colonial officials were confronted with threat of diseases and nationalistic reprisals from natives, which needed to be dealt with in order to put the colonisation agenda on course (Njoh, 2009). Human action, dictated that colonial officials find a comparatively cheaper means to address these challenges. Planning was, thus, found as a means to achieve the ends of European colonialists (see Mabogunje, 1990; Wekwete, 1995; Rakodi 2001, 2006a; Mwimba, 2002; Njoh, 2004).

Planning activities ranging from passage of minor legislation on health, preparation of development schemes, site clearance and building of infrastructure, to passage of major legislation in the immediate period before and after World War II in 1945 were therefore executed. In the British colonies, activities such as road improvements, slum clearance and housing for areas where colonial officials ruled directly were undertaken while preparation of layouts, building of administrative headquarters, railway and mining towns were executed for areas they governed indirectly. Garden cities were also constructed for white settlers in addition to development and conservation of garden suburbs parks for pre-colonial urban societies and company towns (see Home, 1990). Njoh (2004) also catalogues sixteen of such planning projects at the turn of the nineteenth century in the French part of SSA. These include: the 1890 urban development plans for the capital colony of Dahomey (now Republic of Benin) and city of Doula in Cameroun; the 1880 design and construction of military settlement at Saint Louis in Senegal for the French military personnel stationed at the colony; and the first urban development plan for Conakry, capital of Guinea in 1895.

The major planning legislation that was passed particularly in the British controlled areas included: Kenya’s 1936 Town Planning Ordinance; Nigeria’s 1946 Town Planning

Ordinance; Malawi's 1948 Town Planning Act; and Tanzania's 1956 Town Planning Ordinance. These planning legislations prescribed welfare model rational comprehensive approach to ULUP with the use of master plans underpinned by land use segregation concept (Njoh, 2009; UN-Habitat, 1999, 2009). Therefore, to achieve the end of securing the health needs of colonial officials stationed at the colonies, colonial authorities based on these planning activities promoted spatial segregation. This meant the physical separation of European settlements where all the infrastructure and amenities were provided and high health standards and building regulations were enforced, from those of Africans by 'cordon sanitaire of open spaces with parks and race-courses' (see Mabogunje, 1990; Larbi, 1996; Njoh, 2004, 2009; Home, 2012). Examples of this was the creation of threefold urban centre divisions of native city, the non-European Township and European Reservation in Nigeria by the Township Ordinance of 1917, and allocation of separate zones for railway employees, European and Asian traders and African labourers in Kenya (see Mabogunje, 1990).

Though few areas occupied by the native population were serviced with infrastructure and amenities, such as electricity and roads, these services were to facilitate the activities of colonial government officials like sanitary inspectors, tax collectors, and the police and military personnel (Njoh, 2009). Thus, this was to facilitate the achievement of colonialists' health, political and economic ends through good sanitation, revenue mobilisation and maintenance of law and order. Njoh (2009) notes further that, to maintain full grips of their colonies and assuage nationalistic sentiments, colonialists sited their homes and administrative set-ups on hilly areas to monitor and control the colonised people. Again, apart from the economic gains from using Africa's cheap labour, planning policies were used to restrict movement of indigene Africans from rural areas to urban areas as an additional control of the indigenes (see Mabogunje, 1990; Sattertwate, 1996; Rakodi, 1998; Njoh, 2004, 2009). South Africa and Zambia are some of the examples of colonies where such restrictions were placed on rural - urban migration (see Rakodi, 1990; Mwimba, 2002; Home, 2012).

To further enhance exploitation of Africa's resources towards achievement of their economic ends, colonial planning and related policies supplanted indigeneous African land tenure systems with systems that pertained in Western Europe. The new land tenure systems permitted large scale commodification of land in Africa and in some cases vesting of entire ownership in colonial governments (see Rodney, 1972; Amin, 1972; Wekewe, 1995; Okoth-Ogendo, 2000; Njoh, 2004, 2009; Home, 2012). A notable feature of the

new tenure regime was to ensure control over all land transactions by the colonial governments and make them owners of so called “unoccupied and ownerless lands” to advance the economic and political ends of the colonialists (Hammond, 2006; Hammond *et al.*, 2006; Njoh, 2009, Home, 2012). For example, on the one hand colonial governments made free grants or introduced additional policies that favoured the few educated indigenes and the politically active group to control them. On the other hand, to ensure achievement of the economic ends, European colonialists promoted large scale commercial plantations and mining activities in Africa with their home companies as the beneficiaries. This was ensured through colonial governments’ generous offer of land either free of charge or at a giveaway prices to such companies (Rodney, 1972; Amin, 1972; Hammond, *et al.*, 2006; Njoh, 2009).

Given the foregoing discussions, it stands to reason that it is the perceived incentives; the highly valued health, economic and political ends of Western European colonialists compared to the cost of instituting formal ULUP that necessitated its institutionalisation in Africa. This undoubtedly reflects human action. Perhaps it is in this vein that Rakodi (2006a) remarks that contemporary African cities with the exception of few were new creations in the colonial period and represent the aims and vision of the politically and economically powerful – the expatriate colonial entrepreneurs and administrators.

3.2.2 Post-Colonial ULUP Regimes

With the exception of Republic of South Africa, which has adopted integrated planning system since 1994 (Musandu-Nyamayaro, 2008; Watson, 2009a), the literature shows that SSA in general is clinging onto the colonial planning policies (Rakodi, 2001, 2006a; Watson, 2009a; UN-Habitat, 1999). This continuous survival of colonial planning regimes manifests their provision of incentives to a few elite and their cronies in the sub-region. At independence mostly in the 1960s, leaders of newly emergent African states were enthusiastic to embark on rapid socio-economic development. They, therefore, sought to overhaul the colonial structures including land tenure and development policies (Rakodi, 2006a; Hammond and Antwi, 2010). However, the attempt at review of colonial land and planning policies was short-lived (Okoth-Ogendo, 2000; see also Larbi *et al.*, 2004). Tanzania, for example, made the Arusha Declaration in 1967. This culminated in the introduction of African Socialism (Ujamaa) as its new political philosophy. As part of that new philosophy, all lands were nationalised and ULUP was supposed to have been people-oriented, but this could not be sustained (Wekwete, 1995).

The major attempt at planning reforms perhaps occurred towards the latter part of the 1970s. This was when the World Bank linked lending agreements with review of planning regulatory frameworks (Payne and Majale, 2004; Musandu-Nyamayaro, 2008). That aside, there have been piece-meal attempts to revise planning practice in countries in the sub-region. Governments of countries like Zimbabwe, Zambia, Botswana, Tanzania, Kenya and Nigeria made attempts to reform their ULUP regimes with the intention to promulgate flexible ULUP laws and development standards to suit the needs of the poor and low income people. The remainder was to relax development control and provide serviced plots of land, funds and materials for construction of buildings. Eventually, these arrangements turned out to be unsustainable and were abandoned due to cost implications (UN-Habitat, 1999). What is intriguing is the survival of these planning regimes in SSA despite numerous criticisms of being deleterious in nature (see Payne and Majale, 2004; Kironde, 2006). However, studies such as Wekwete (1995), Okoth-Ogendo (2000), Hammond *et al.* (2006) and Home (2012) have enhanced understanding that land and planning policies in the sub-region have continued to survive due to their provision of incentives of control of land and its related resources, for the few elites - also a reflection of human action.

Planning regimes in SSA are, therefore, characterised by hierarchy of statutory plans and sets of development control regulations which are linked to local government administrative laws and are driven by government and its officials to the exclusion of the larger populace (see Wekwete, 1995; Rakodi, 2006c). Having made this exposition it is now appropriate to take a look at the case study country.

3.2.2.1 Formal ULUP in Ghana

The incentives of securing health needs of colonial administrators, address nationalist reprisals from indigenes and economic gains from colonialism like other SSA countries also motivated institutionalisation of ULUP in Ghana by Western European colonialists particularly the British (see Afrane, 1993; Gambrah, 1994; Konadu-Agyemang, 1998). Formal planning in Ghana began with the promulgation of the Towns Ordinance in (1892) (Gambrah, 1994; Baffour Awuah *et al.*, 2011b). A number of ULUP schemes were also prepared, and regulations on creation of good sanitary conditions, prevention of diseases, minimum plot sizes and alignment of streets, among others, passed in the (1900s) and (1920s) (Gambrah, 1994; Konadu Agyemang, 1998). The Town Planning Ordinance (1925) was, for example, passed with the creation of health boards to promote healthy environments. Some ULUP schemes were also prepared and implemented in

Accra and Kumasi, the capital and second largest city, respectively, in (1920) and (1927), during Sir Governor Gordon Guggisberg's era (Baffour Awuah *et al.*, 2011b). Similarly, various infrastructure and amenities were constructed (Konadu-Agyemang, 1998). However, it was not until 1945 that government for the first time considered ULUP as a comprehensive activity (Afrane, 1993; Larbi, 1996; Konadu Agyemang, 1998; Acquaaah-Harrison, 2003; Baffour Awuah *et al.*, 2010, 2011b).

This followed the promulgation of Ordinance No. 13 of (1945), which was based on the British Town and Country Planning Act (1932) (Amissah, 1979; Konadu-Agyemang, 1998; Owusu, 2008; Baffour Awuah *et al.*, 2011b). Ordinance No. 13, which provided for the creation of town and country planning boards with responsibility, *inter alia*, for ensuring orderly and progressive development of land was later replaced by Cap 84 in (1954). However, earlier in (1944) the TCPD was set up to prepare draft ULUP schemes and reports. The Department, therefore, became a secretariat of the planning board even though this was not expressly provided for by the Ordinance (see Domfeh, 2001; Baffour Awuah *et al.*, 2011b). Like other SSA countries, the ULUP legislation prescribed rational comprehensive approach to ULUP and the use of master plans. Consequently, underlying the country's ULUP regime was the land use segregation concept with its cardinal principles of unifunctional land use, discreet zoning, regulations and consensus signifying that government decisions are in the interest of the larger society (Afrane, 1993; Baffour Awuah *et al.*, 2010, 2011b).

Based on these planning activities, British colonialists pursued their comparatively highly valued health, political and economic ends. For example, similar to other situations in SSA British colonial authorities undertook spatial segregation through zoning to achieve their ends. Consequently, whilst the colonial officials were living in big bungalows on large luxurious compounds in prime areas like European, Airport and Cantonments Residential Areas in Accra, their Ghanaian compatriots lived in deplorable areas like Chorkor and James Town (Larbi, 1996; Konadu-Agyemang, 1998). Thus, planning was used as a comparatively cheaper means of attaining the ends of the British colonial officials, a manifestation of human action.

After independence in (1957), attempts were made to re-orient planning in Ghana under its first president, Dr. Kwame Nkrumah. Cap 84 was, for example, revised in 1958 following promulgation of the Town and Country Planning Act (1958) (Act No. 30) (see Kotey *et al.*, 2004). This replaced the planning boards with the minister responsible for

town and country planning (Baffour Awuah *et al.*, 2011b; see further Kotey *et al.*, 2004). The TCPD also became a secretariat of the minister responsible for town and country planning while the planning board was completely abolished with the passage of Town and Country Planning (Amendment) Act (1960) (Act No. 33). These attempts at re-orienting ULUP in the country were short-lived (Larbi, 1996; Acquah-Harrison, 2003).

During the period between (1985) and (1990), the country also witnessed some ULUP reforms under the World Bank and International monetary Fund Economic Recovery Programme, which was undertaken through three different projects; Urban I, II and III projects (Larbi, 1996). This, for example, resulted in the preparation of the (1991) structure (strategic) plan of Accra, which was to determine land development process and growth direction of the city (Larbi, 1996). Furthermore, in (1993) after a protracted period of total central government control, planning was decentralised with the promulgation of a host of legislations including Local Government Act (1993) (Act 462), the NDPC Act (1994) (479) and the National Development Planning (Systems) (1994) (Act 480). This arrangement, in collaboration with the country's Civil Service Law (PNDCL 327) also decentralised TCPD. This made former regional and districts outfits of the department creatures of the regional and district co-ordinating councils, and the metropolitan/municipal/district assemblies, planning authorities (Baffour Awuah *et al.*, 2011b; see further GoG, 1996b).

Despite the foregoing, the core colonial ULUP regulatory framework has remained intact (see Grant and Yankson, 2003; Kotey *et al.*, 2004; Owusu, 2008; Oduro, 2010). The new planning arrangement as prescribed by Act 462 did not repeal Cap 84. Besides, Act 462 which made local governments planning authorities has no LI to dictate its practical workings. As such, Cap 84 and Act 462 operate concurrently and are supported by the National Building Regulations 1996 (LI 1630) (see Nkum and Associates, 2001; Domfe, 2001; GoG, 1996a; 2009; Baffour Awuah *et al.*, 2011b). Again, like the rest of SSA, studies such as Larbi (1994), Konadu-Agyemang (1998) and Hammond (2006) report that colonial land and planning policies have survived to date because of their provision of incentives for the few elite to control land and its resources, a reflection of human action. Konadu-Agyemang (1998: p 145), for example, notes that:

“The continuous existence of the colonial planning apparatus in the country for over four decades since independence should not be misconstrued to mean it is effective and acceptable. Rather, its continuous survival has been made possible

thanks to the few rich and elites in society who are afraid that any changes will adversely affect their role in the administration of land and its resources.”

The ULUP regime in Ghana therefore stipulates that no development should be undertaken in a community/area declared a statutory planning area by government unless that community or area is zoned and covered by an approved sub-division planning scheme. It is imperative to state that all urban centres in the country have been declared statutory planning areas. That said, the planning regime as applied to residential neighbourhood development within a statutory planning area operates by a number of processes. First, the community of which the residential neighbourhood is a constituent should be zoned and the residential neighbourhood earmarked as such. The zoning is undertaken by planning authorities - the metropolitan/municipal/district assemblies in their medium term development plans.

Second, a sub-division planning scheme must be prepared to cover the neighbourhood. This sub-division planning scheme must receive the prior approval of the relevant planning authority. Third, prospective developers must acquire building/development permit prior to the commencement of their developments. Development under the planning regime is defined to include infrastructural works. However, prospective developers require pre-permit items, such as architectural designs, formalised title and in some cases environmental and traffic impact assessment reports.

Fourth, upon commencement of a development, planning authorities are supposed to check and approve every stage of the construction of the proposed development. They are also supposed to issue certificate of occupancy prior to occupation of newly constructed buildings. The rationale behind all these requirements is to ensure that building projects are properly screened to meet minimum acceptable standards (see Afrane, 1993; Baffour Awuah *et al.* 2011c). Figure 3.1 gives a simplified version of the operation of Ghana's planning regime. Though not expressly stated as a binding requirement, the country's planning regime is also to ensure provision of infrastructure and amenities prior to the commencement of actual residential building developments. Consequently, like other SSA ULUP regimes, Ghana's ULUP model prescribes plan, service, develop and occupy principle.

It needs to be pointed out that government through the planning authorities under normal circumstance is supposed to prepare and approve sub-division planning schemes, provide infrastructure and certain social amenities, and bear their cost. Private residential

building developers under this arrangement are only supposed to obtain building permits to construct their buildings. They also need to receive approval from planning authorities to continue with development at every stage of the construction of their developments and obtain certificate of occupancy upon their completion. The cost of these activities including the requirements for building permits – such as architectural designs and formalised title are borne by private developers.

However, government for some time was unable to adequately prepare planning schemes and provide infrastructure. Therefore, over years particularly since the latter part of the 1980s there have been arrangements where private land owners engage their own consultants to prepare planning schemes (see Konadu-Agyemang, 1998; Arku, 2006). These planning schemes are then sent to the planning authorities for the requisite approval. The cost for the preparation and approval of the planning schemes are paid by land owners. The same arrangement pertains to infrastructure and certain social amenities like community parks. Indeed, this is the current situation in practice and it is very common with private real estate development companies whose influence on residential housing market has been surging since the liberalisation of the country's economy in the 1980s. Besides, arrangement for inspection of development at every stage of construction and issuance of certificate of occupancy hardly take place. What is noteworthy is that planning schemes preparation and approval as well as infrastructure and social amenities costs are ultimately transferred onto the individual residential building developer or purchaser. The foregoing notwithstanding there are on-going efforts to reform the country's planning regime (see Section 3.4).

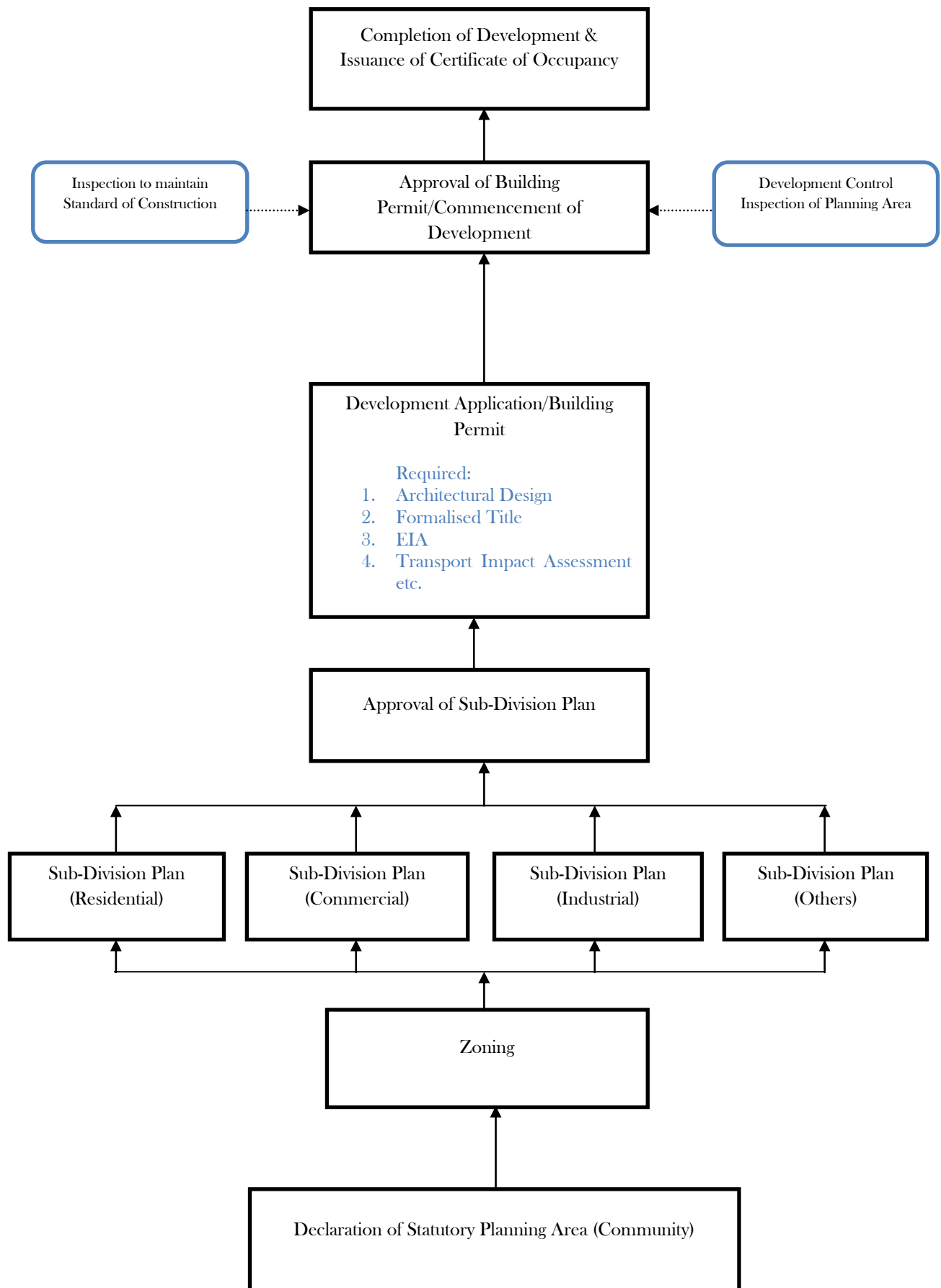


Figure 3. 1 Simplified Version of the Operation of Ghana's ULUP Regime

3.3 State and Determinants of SSA ULUP Regimes (Low Compliance with Regulations)

The literature points out that, planning systems in SSA are weak (UN-Habitat, 1999, 2009a; Payne and Majale, 2004; Watson, 2009a). One of the weakest links of these planning systems is low compliance with their regulations or requirements. Between half and three quarters of all new housing in SSA cities is constructed on land that has been supplied through processes that do not adhere to formal legal requirements; sub-division, transfer and development control (Rakodi, 2006b). It is further suggested that 62.2% of the urban population in SSA live in unauthorised and slum developments compared to 24% in Western Asia, 27% in Latin America and the Caribbean, 27.5% in South East Asia, 35.5% in East Asia and 42.9% in South Asia (UN-Habitat, 2008). In Ghana, Larbi (1996) also reports that 76% of all developments on customary lands in Accra are not covered by requisite building permits.

Admittedly, there are few areas in the sub-region, which are well laid out and planning requirements are largely adhered to. These areas are mostly occupied by the rich and elite. Even so, such areas are being blighted by their co-location with shanty settlements and rapid illegal conversions of land uses (see Friedmann, 2005). The examples of co-located first class residential areas of Airport and Nima, a shanty settlement only separated by a road (see Figure 1.3: p8), East Legon Residential Area and Okponglo settlement, and New Achimota Residential Area and Chantan settlement, all in Accra, Ghana are illustrative. Therefore, SSA planning model of plan, service, develop and occupy has now turned into develop, occupy, service and plan (UNCHS, 1996; see also Oyugi and A'kumu, 2007).

Emerging out of the above situation is poor housing and urban environment conditions, and lack of infrastructure, among others things (UN-Habitat, 1999, 2009; Payne and Majale, 2004) in countries in the sub-region. SSA, for example, has the world's least infrastructure (see Calderon and Servén, 2008; World Bank, 2011). It is even estimated that only 30% of roads in Africa are paved while 20% of the continent's population has access to electricity or modern form of energy compared to 50% in South Asia and 80% in Latin America (Africa Rising 21st Century, 2010).

3.3.1 Determinants of Low Compliance with Regulations

The preceding discussions have established low level of compliance with planning regulations in SSA. This discussion focuses on determinants of this low compliance with

planning regulations from the viewpoint of regulated entities; property owners/developers given that the weakness of public institutions responsible for enforcement of regulations in the sub-region is already noted (see Section 2.4). Besides, examination of these institutions falls outside the scope of this work.

Insights from human action theory hold that for property owners to comply with planning regulations there should be incentives; positive difference between the benefit and cost of compliance with regulations to impel them to do so. Prior to that they must be aware of regulations, and establish the relevance of regulations to the achievement of their ends. Nonetheless, it is argued that though planning regimes in SSA provide some window of opportunity for the public to participate in the planning process, in reality urban residents are not involved and, therefore, they are oblivious of regulations (see Afrane, 1993; UN-Habitat, 1999, 2009a; Nkum and Associates, 2001; Payne and Majale, 2004; Kironde, 2006; Aribigbola, 2007). Even if they were involved in the process, planning regulations are numerous and so complicated that planning officials themselves are sometimes not aware of regulations and their demands (see Afrane, 1993; Payne and Majale, 2004; UN-Habitat, 2009a). Kironde (2006) established that 98% of developments under the Kinyerezi in Dar es Salaam, Tanzania were not covered by requisite building permits, a situation which is attributed to lack of awareness of the requirement. Mensah (2010) also established high levels of unawareness of legal building permit and other land development requirements among unauthorised developers in Aboabo, Kumasi, Ghana. To the extent that property owners are not aware of planning regulations, compliance with regulations is, thus, expected to be low from the dictates of human action (see also Habitat, 1999, 2009a; Payne and Majale, 2004; Aribigbola, 2007). However, findings from studies such as Arimah and Adeagbo (2000) also show that despite the high level of awareness of planning regulations; 56%, 73% and 80% among low, middle and high income groups respectively in the city of Ibadan, Nigeria, compliance with regulation is still low. Indeed, a recent study by Boamah *et al.* (2012) in Wa Municipality in Northern Ghana found that despite high level of awareness (76% among respondents) of the legal building permit requirement, compliance with the requirement is low. This, therefore, suggests continuous interrogation of the issue of awareness of regulations and their compliance.

Furthermore, it is suggested that planning regulation and, thus, ULUP is not perceived by majority of the people in SSA as a relevant tool for socio-economic development given its exploitative colonial antecedent in the sub-region (Rakodi, 2001; see also Section 3.2.1).

Post-colonial African governments have also not revised the colonial planning apparatus due to its provision of incentives for the few elite and the rich in society to control land resources (see Section 3.2.2). Consequently, planning is seen by majority of the people in the sub-region as a tool for suppression and exploitation of their resources by few people in society (see Wekete, 1995; Konadu-Agyemang, 1998; Hammond and Antwi, 2010). From human action standpoint, this signifies lack of conception of planning as a means by majority of urban dwellers to promote their socio-economic needs and, thus, they are not expected to comply with planning regulations. However, this link between relevance of planning and compliance with its regulations still begs empirical examination and, thus, requires such interrogation.

Additionally, planning regimes in SSA are claimed to be largely unbeneficial to majority of urban dwellers in the sub-region. Though some studies (see Asabere, 1981; Arimah, 1992; Anim-Odame, 2008) on urban development processes in the sub-region demonstrate that planning factors such as government zoning increases property values, planning has not achieved its aim in the sub-region. It is argued that planning in the sub-region is unable to deliver developable lands to significant majority of the urban population (see UN-Habitat, 1999; Rakodi, 2006b, 2006c; Egbu, 2007; Egbu *et al.*, 2007). Besides, they do not take account of development imperatives such as the rising informal sector in the sub-region, which provides means of livelihood for majority of urban residents (Section 1.2; see also Brown, 2012). For example, while majority of urban dwellers particularly those in the low income communities would want to put their homes into multiple uses to earn income, these regimes by their strict land use segregation concept serve as obstacle to their development needs (see Afrane, 1993; Tudzi, 1999; Payne and Majale, 2004). Brown (2012 p84) makes the point that municipal governments around the globe do not see the local development potential of informal enterprises. As such, the policy approach towards them has often varied from benign neglect to frequent harassment, fines and evictions and noted new reports of such approaches in seventeen SSA countries including Benin, Cote D'Ivoire, Ghana, Ethiopia, Tanzania, Zambia and Malawi.

Apart from these planning regimes' irresponsiveness to the socio-economic development needs of majority of urban dwellers, their requirements (regulations) also continue to be restrictive. These requirements as noted earlier (see Section 3.2.2.1 for those of Ghana) include zoning, approved sub-division plans, infrastructure and planning/building permit as well as pre-permit application items like formalised title and architectural design. That

aside, compliance cost of the requirements in terms of financial resources for official and unofficial fees for documentation, time lag, commuting cost and professional fees, among other things are enormous.

On average it takes over one year for planning permission to be granted in most countries in SSA. Kironde (2006) reports that, on average it takes four years for a sub-division plan to be prepared and approved in Tanzania. Egbu *et al.* (2008) also established that in Nigeria, over twelve months elapse before a development right is granted. Moreover, the World Bank (2005) estimates that it takes 116 days for title to a property to be formalised in SSA with 14.4% of the value of a registerable property as cost of formalisation compared to 51 days and 4.2% of the property value as cost in East Asia and the Pacific. In Ghana, the time lag for title formalisation according to the World Bank is even worse; 382 days. A more recent study by Hammond and Antwi (2010) also established that the social cost of land title regulative policies on 0.23 acre residential plot of land in the country is USA\$5,320.00. What is even intriguing is that indirect cost, such as unofficial fees paid at public agencies to expedite action on documentation and cost of time lag constituted bulk; 90% of this cost. With regard to infrastructure, the situation is even worse. It is estimated that the cost of infrastructure services in SSA is atleast twice that of South Asia (see Africa Rising 21st Century, 2010). Given the forgoing, it can be surmised that the cost of compliance with planning regulations in SSA is more than the benefit and from the standpoint of human action this provides a recipe for non-compliance with these regulations.

Finally, the implications of human action suggest that where there are no means or resources there will be lack of incentives and to that extent non-compliance with planning regulations by property owners. Therefore, given the levels of urban poverty in SSA (see Sections 1.1 and 1.2) and restrictive nature of SSA planning requirements, which majority of urban dwellers do not have, it stands to reason that compliance with regulation will be low. It is in this vein that Wekete (1995) writing on planning in Southern and Eastern Africa concluded that development control is appreciated by every community, but not when it renders people homeless.

3.4 Current Efforts at Review of SSA ULUP Regimes

The role of land policy and development, and resource access and management in economic development has attracted the attention of national governments and international development agencies in last two decades or more (see Larbi *et al.*, 2004;

Borras Jr. and Franco, 2008). The international community in concert with national governments especially those in developing world has introduced a number of initiatives to address these development imperatives. These include: the launch of the Habitat Agenda in 1996 at Turkey (UNCHS, 1996); formulation of Agenda 21 at UN Earth Conference in Rio de Janeiro, Brazil in 1992; and the establishment of cities alliance by the UN-Habitat and the World Bank in 1999. In general, these initiatives were to ensure adequate shelter for all and promote sustainable urban development (Payne and Majale, 2004; UN-Habitat, 2009a).

In addition, a number of countries in SSA have undertaken or are embarking on planning reforms as part of wider land tenure reforms (see Kironde, 2006; GoG, 2009). These reforms are, in the main, driven by insights from Western normative planning theories and models, and neo-liberal prescriptions (Watson, 2002; Harrison, 2006). The Western normative planning theories and models are several including multi-culturalist, the just city and new urbanism planning models (see Allmendinger, 2002; Watson, 2002; Campbell and Fainstein, 2003; Harrison, 2006). However, the one that seems to have gained acceptance and is driving planning reforms in SSA (see Watson, 2002; Harrison, 2006) and planning practice in the world is the collaborative planning model (Naess, 2001; Agger and Lofgren, 2008; Purcell, 2009). A brief discussion of the model, therefore, is imperative.

The collaborative planning model rests on American pragmatism as developed in the thoughts of John Dewey and Richard Rorty, and Jurgen Habermas's communication rationality idea (Campbell and Fainstein, 2003). This planning paradigm subscribes to the incorporation of democracy in planning through citizens, interest groups and other stakeholders' participation in planning process. Thus, it is to create a platform for these players to form arguments, debate differences, exchange ideas towards understanding and negotiating proposals to arrive at a consensus on particular course of action. The planner's role in this process is more of a facilitator, negotiator and experiential learner to contribute to building consensus instead of determining goals and framing blue prints plans (see Harley, 1992, 1996, 2003; Agger and Lofgren, 2008). These are some of the insights driving the planning reforms in Ghana.

Ghana after developing its land policy in 1999 embarked on a land tenure reform programme in 2003 under LAP. As part of this project a sub-project; LUMP which is to reform ULUP in the country commenced in 2007. The aim of the project is to develop a

coherent, streamlined and sustainable land use planning and management system, which is decentralised and based on consultative and participatory approaches to effectively manage human settlement developments (see GoG, 2009). The objectives include: developing and testing models and processes of land use planning and development controls in partnership and with the active participation of communities and customary land owners; developing and drafting a coherent and modernised legal framework for town and country planning including model guidelines and regulations; and developing information/public awareness campaign strategies and materials to support the implementation of the reformed planning system. The main policy study which is to underpin the planning reform was completed in 2009. Planning model guidelines and planning standard and development guidelines have also been developed, and a new spatial planning act yet to be passed. However, the planning standards and development guidelines' is yet to be subjected to stakeholder consultations and approval by government.

Apart from its numerous criticisms (see Flyvbjerg, 1998; Huxley and Yiftachel, 2000; Yiftachel, 2001; Naess, 2001; Agger and Lofgren, 2008; Purcell, 2009; Lovering, 2009) the insights of the collaborative planning model are not new to SSA. The core content of earlier discussions in this chapter demonstrates that the practice of ULUP prior to Western Europe's colonisation of Africa in some part of the sub-region is in tandem with insights of the collaborative planning model. However, given the socio-economic conditions in SSA; inter-tribal and land ownership conflicts, rise in urban poverty, weak civil societies, imbalanced power relations and rapid urbanisation, among others things it is debatable whether these prospective planning arrangements alone will improve planning practice in the sub-region (see Watson, 2002; Harrison, 2006). Home (2012 p42) writing on a related subject asserts among other things that the poor in SSA are generally pre-occupied with day-to-day existence, rather than engaged with time-consuming solidarity activity (*such as deliberative planning process*), while outside elites may manipulate the process to their own advantage. Even in the developed world such as the UK the new planning system, which *inter alia* hinges on some of these collaborative planning ideals is said to require cultural change on the part of stakeholders to materialise (Shaw and Lord, 2007). Yet after three years of its implementation it was noted that not much had been achieved (Shaw and Lord, 2009). Indeed, Shaw and Lord (2009 p 426-427) report that there is little evidence as to significant value contribution of community groups participation in plan making process, which is at the heart of the reform.

In the midst of the forgoing scepticisms, little is also known of the extent and magnitude of economic impact of extant SSA ULUP regimes, which signifies that no realistic solution can be prosposed. Relevant studies have, in the main, been descriptive or focused on single or few aspects of the urban development processes in the sub-region. The recent human settlements and land use policy study undertaken as part of ongoing ULUP reform in Ghana, for example, observed that the cost of compliance with ULUP regulations is high and is one of the reasons for high non-compliance rate with regulations (GoG, 2009). However, the study could not outline the extent and magnitude of this cost to inform policy on how much the cost should be reduced. Indeed, there is a dearth of in-depth studies that apply insights from economics to provide conceptual understanding of the weakness of the sub-region ULUP regimes and quantitative notion of their cost and benefits (Egbu, 2007; Egbu *et al.*, 2008). This is in spite of recommendations by studies, such as Farvacque and McAuslan (1992) and Dowall and Clark (1996) for such appraisal of ULUP regimes in the developing world for appropriate policy formulation.

That aside, studies such as Bertaud and Malpezzi (2001) Chesire and Shephard (2002, 2004) Corkindale (2004) have also suggested that ULUP regimes generate both positive and negative economic impacts. As such, it would be inappropriate to uphold or dismiss an ULUP regime without evaluating its extent of economic incentives (see Hayek, 1976). It is, therefore, towards contributing to bridging this knowledge lacuna on lack of evidence on the quantitative notion of the economic incentives provided by SSA ULUP regimes that this present research is fashioned. However, given the literature discussion particularly in section 3.3.1 the study proceeds on the central argument that SSA ULUP regimes are weak and dysfunctional in part with low compliance with planning regulations because they do not provide incentives to property owners/developers.

3.5 Chapter Summary

This chapter set out to evaluate the relevant literature on SSA ULUP regimes with emphasis on Ghana to outline their nature, their weak state and determinants, and current efforts' towards their improvement. The chapter began with historical discussions on planning and institutionalisation of formal planning, and their nature in the sub-region. This was followed by the state of planning regimes specifically compliance with planning regulations in the sub-region and its determinants. In conclusion, the chapter discussed current efforts at improving planning practice in SSA, noted the knowledge gap for the study and stated the central argument of the study. To verify the central argument of the

study and address the research question, there is a need for the study variables in the conceptual framework to be measured. The next chapter outlines the economic evaluation framework for the measurement of the study variables.

Chapter Four

Economic Evaluation of ULUP

4.1 Introduction

Further to crafting of the conceptual framework in chapter two, the central substantive argument of the inquiry was also developed in chapter three. This central argument *per se* is not by itself measurable and testable. There is a need to reduce it into statistical form(s) capable of measurement and testing to determine its authenticity, or otherwise, so as to ultimately address the fundamental research question. In so doing, it is expedient as a starting point to outline methodology(ies) to calibrate the variables and their relationship in the conceptual framework. This chapter, therefore, examines the usual methodologies for evaluation of economic impacts of phenomena. The purpose is to devise a suitable measuring framework based on which the study variables can be measured to authenticate, or otherwise, the thesis of the study. The chapter commences with a discussion on economic evaluation methodologies and subsequently devises an operationalisation procedure for the research based on the discussion and insights from the conceptual framework.

4.2 Economic Evaluation Methodological Review

Several approaches exist for economic evaluation of policies (Armstrong and Taylor, 1985). According to Hammond (2006) and Hammond and Antwi (2010), evaluation of policies can be examined from several perspectives. For example, from the standpoint of knowledge claims, economic evaluation of policies such as planning policies can be examined either from quantitative and qualitative perspectives (see Evans, 1996; Clarke and Dawson, 1999; Forss *et al.*, 2002; Khakee, 2003; Corkindale, 2004; Brueckner, 2007). Evaluation of policies can also be approached *inter alia* from: the standpoint of ex ante or ex post depending on whether or not evaluation is prior or subsequent to implementation of policies (Lichfield, 1966, 1996; Clarke and Dawson, 1999; Alexander, 2006); economic perspective in terms of macro and micro economics (Adams *et al.*, 2005; Hammond, 2006; Hammond and Antwi, 2010); and nature of effects of policies, for example, on consumers or suppliers (see Pogodzinski and Sass, 1990). The thrust of this discussion, however, centres on quantitative economic impact methodologies in view of the aim of this study.

Three main economic evaluation methodologies are identified in the literature for examination of economic impact of ULUP policies. These are: (i) the multiplier-based; (ii) revealed preference; and (iii) the stated preference methodologies.

4.2.1 The Multiplier-Based Methodologies

The multiplier-based economic evaluation methodologies are several. These include: economic based; Keynesian income-expenditure; input-output (see Leontief, 1966; Miernyk, 1982; Hertsgaard *et al.*, 1984; Armstrong and Taylor, 1985; Lichfield, 1996) and export based (see Miernyk, 1982; Bergstrom *et al.*, 1990; Hughes, 2003) models. Fundamental to these economic evaluation methodologies, as their categorisation suggests, is the multiplier. The multiplier, as a concept, was originally developed during the great depression in the 1930s, by Keynes, to provide justification for public spending to stimulate national economies towards employment generation (Wang, 1997). In spite of its original purpose, however, the multiplier concept is now being used even by industries to demonstrate their contributions to national and regional economies (Wang, 1997). The multiplier-based economic evaluation methodologies, therefore, work on the macro-economic level. In essence, they calibrate economic impact of interventions, such as policies on aggregate basis proxied on variables, such as employment, per capita income, GDP and housing, among others (see Armstrong and Taylor, 1985; Crompton, 1995; Wang, 1997; Donnelly *et al.*, 1998; Hughes, 2003; Gelan, 2003; Lee and Taylor, 2005).

Given the complexities associated with the multiplier-based methods, their requirement of huge volumes of organised data (see Crompton, 1995; Huges, 2003; Hammond and Antwi, 2010) and the focus of this study on quantifying individual choices regarding planning requirements, these methods are unsuitable for this study. Therefore, the chapter turns to a discussion on micro-economic impact methodologies.

4.2.2 The Revealed Preference Methods

These methods operate on the basis of actual behaviour of people or market participants. For example, how much people actually pay for goods and services which, in effect, is considered the value or benefit they derive from the goods and services (Kula, 1997; Cheshire and Vermeulen, 2008; Wijnen *et al.*, 2009). As applied to ULUP, this can be conceived as how much people actually pay for ULUP variables, such as approved subdivision planning schemes, tarred roads, electricity, formalised title and building permit. The most known and used revealed preference method is the hedonic price model

(Bertaud and Malpezzi, 2001; Cheshire and Sheppard, 2004; Egbu *et al.*, 2007; Cheshire and Vermeulen, 2008; Wijnen *et al.*, 2009).

4.2.2.1 Hedonic Price Model

Though the hedonic price model has a long historical antecedent, its theoretical foundation is credited to Rosen (1974). This followed inspirational works from Griliches (1961) who developed the earlier works further into an approach for estimating commodity price changes as price indices. Subsequently, Lancaster (1966) provided the model's micro-economic foundation for estimating value for utility generating attributes with natural application to housing (Brachinger, 2002; Sirmans *et al.*, 2005; Hammond, 2006).

The method works on the premise that goods are valued based on their utility bearing attributes or characteristics (see Lamond, 2008). Thus, embedded in a good are several attributes, which are valued on the basis of utility consumers derive from them (Rosen, 1974). It, therefore, operates by decomposing a good into its different attributes, and assign implicit prices to each of them (Rosen, 1974; del Saz-Salazar and Garcia-Menéndez, 2005; Sirmans *et al.*, 2005; Lamond, 2008). These prices are known as hedonic prices and reflect the maximum amount consumers are willing to pay for a unit of an attribute. This is revealed to them from observed price of differentiated goods and specific amount of the attributes associated with them (Rosen, 1974).

Theoretically, the method can be estimated as a single or double stage equation(s) (see Lamond, 2008). The first stage entails econometrically estimating implicit price of attributes through regression analysis. That is, it estimates the effect of a product's attributes on its price by regressing price on the attributes. At the second stage, the model then estimates the structure of the demand and supply of the attributes (Rosen, 1974; Sirmans *et al.*, 2005). However, in practice the method usually takes the single stage approach (Brachinger, 2002; Sirmans *et al.*, 2005), which set the functional relationship of the model. This can be illustrated as follows:

Let $x = (x_1, \dots, x_K)$ where x is a set of ordered attributes of any good. This means that preferences of economic agents regarding the good are solely determined by its corresponding attributes vector. This further means that there is a functional relationship f between the price of the good, ρ and its attributes; x written as:

$$\rho = f(x) \quad \text{Equation 4.1}$$

Given the above functional relationship, the implicit prices of the attributes are assessed as partial derivatives of the hedonic function at Equation 4.1. This is written as:

$$\frac{\partial \rho}{\partial x_k}(x) = \frac{\partial f}{\partial x_k}(x) \quad (k = 1, \dots, K) \quad \text{Equation 4.2}$$

The hedonic price (implicit price) $\frac{\partial f}{\partial x_k}(x)$ all things being equal indicates how much of the price of the good, ρ changes, if it is endowed with an additional unit of the attribute ∂x_k .

In its simple form, therefore, a typical hedonic function can be expressed as follows:

$$\rho = \beta_0 + \sum_{k=1}^K \beta_k x_k + \varepsilon \quad \text{Equation 4.3}$$

Where ρ is the price of the good; β_0 is the normal regression intercept; β_k ($k = 1, \dots, K$) the coefficient of the regression is the marginal change in price with respect to a change of the k^{th} attribute x_k of the good; and ε is the stochastic term that takes care of anticipated measurement error.

Comparatively, the hedonic price model is said to be rigorous due to its dependence on actual behaviour of economic agents (Cheshire and Vermeulen, 2008; Wijnen *et al.*, 2009). However, there are also theoretical and practical difficulties that affect its usage. To begin with, the model may be expressed in linear and non-linear form and can employ countless number of attributes. This poses a practical problem as to the appropriate functional form of the hedonic model in any given situation (Kula, 1997; Brachinger, 2002; Sirmans *et al.*, 2005; Lamond, 2008). Besides, the methodology's huge data requirements and presumption of arm's length market transactions could be problematic. This is due to the difficulty in satisfying conditions for such transactions (Kula, 1997; Lamond, 2008; Winjen *et al.*, 2009; Hareth and Maier, 2010).

Despite the foregoing problems, the hedonic price model has received extensive application in the developed world, especially USA and the UK, in areas, such as calculation of consumer price indices, tax assessment, valuation of cars and computers (see Hareth and Maier, 2010). However, most of its application have been in urban development processes and real estate sectors, particularly the housing market (Sirmans *et al.*, 2005; Lamond, 2008; Hareth and Maier, 2010). Within these sectors, attributes

usually employed in the hedonic model include: age of building; land size; number of storeys; number of bedrooms and rooms; number of bathrooms; kitchen; and garage size. The rest are closeness to natural bodies, location in terms of neighbourhood and its environmental characteristics, such as crime rate and distance from the CBD and location with respect to public facilities like schools and sewers (see Brookshire *et al.*, 1982; Sirmans *et al.*, 2005). From the standpoint of ULUP, relevant impact studies dwelling on the hedonic model use marginal prices of ULUP attributes of a property as its value hence the benefits (see Cheshire and Sheppard, 2004; McConnell and Walls, 2005; Cheshire and Vermeulen, 2008).

Related approaches have been the use of actual sale values of properties or the hedonic price indices to establish prices of properties and develop an OLS regression equation with sale price as the dependent variable and its determinants as independent variables based on partial equilibrium framework to analyse economic impact of ULUP policies. A typical functional form of such equations is given below:

$$\rho x = \beta_0 + \beta_1 a + \beta_2 b + \beta_3 c \dots + \beta_n p + \varepsilon \quad \text{Equation 4.4}$$

Where ρx is the nominal price of the property; β_0 is the normal regression intercept; a is all the variables that determine sale price of the property except ULUP determinants; $b \dots p$ are the ULUP variables; $\beta_1 \dots \beta_n$ are the coefficients of the variables; and ε is the stochastic term that takes care of anticipated measurement error. Given this equation, if all the sale price determinants are the same or controlled for properties under inquiry except one, any difference in price is attributable to that determinant and is seen as the value or impact of that determinant. A similar reasoning is also used to assess the impact of ULUP policies on supply of land and housing or number and cost of constructions. Studies, such as Bramley (1993), Bramley and Watkins (1996) and Bramley and Leishman (2005) in the UK, and Quigley and Raphael (2006), Ihlanfeldt (2007, 2009) and Glaeser and Ward (2009) in the USA, in the main, dwelt on this approach. In fact, due to differences in ULUP policies among jurisdictions in states in the USA, studies like Quigley and Raphael (2006) and Glaeser and Ward (2009) actually examined the impact of land use regulation restrictiveness calculated as an index and then incorporated it in the regression.

The use of hedonic and the related methodologies in the urban development process and real estate sectors in the developed world, such as the UK and the USA, has been made

possible due to availability of huge volumes of organised data and articulate property market. Indeed, the studies outlined in the preceding paragraph, for example, relied heavily on rich archival time series data from building societies and government departments. However, such situations are hardly encountered in SSA (Hammond, 2006; Egbu *et al.*, 2007; Egbu, 2007; Hammond and Antwi, 2010). Apart from that, the approaches are mostly oriented toward examining positive impacts; that is benefits of ULUP policies and, therefore, incapable of addressing other issues, which are germane to SSA ULUP policies such as bureaucratic delays. In addition, there have been many disagreements over these approaches and their findings even in the developed world (see Quigley and Rosenthal, 2005). For example, the controversy on attributing the value of ULUP to ULUP constraints or amenity from the standpoint of these approaches still lingers (see Ihlanfeldt, 2007, 2009). The foregoing, therefore, makes examination of the stated preference methodologies also imperative.

4.2.3 The Stated Preference Methods

The stated preference methods are usually used for the valuation of goods and services, which have no known existing markets, such as public goods (see Brookshire *et al.*, 1982; Adamowicz, 2004; Lusk and Norwood, 2009; Wijnen *et al.*, 2009). The main method from this group of economic impact methodologies is the CVM and, more recently, the conjoint analysis technique (Roe *et al.*, 1996; Wijnen *et al.*, 2009). However, the application of conjoint analysis technique has mainly been in the area of marketing research (Roe *et al.*, 1996; Green *et al.*, 2001). This discussion, therefore, focuses on the CVM.

4.2.3.1 The Contingent Valuation Method

The origin of CVM is traced to Ciriacy-Wantrup (1940) work on the benefits of prevention of soil erosion (Akwansivie *et al.*, 2010). However, the earliest application of the method is credited to Davis (1963) who used the method to determine the value and wilderness lovers of a recreational area (Kula, 1997; Hammond, 2006; Akwansivie *et al.*, 2010). The method is based on ‘value theory’ and works on the presumption that individuals value their own consumption in a rational manner. That is, they will seek to maximise consumption or utility and minimise their expenditure as best as possible subject to constraints like income and other socio-economic factors (Kula, 1997; Single *et al.*, 2001; Abeka, 2005; Hammond, 2006). It, thus, seeks preference measurements from individuals who are affected by non-marketed goods based on the notion of compensating

and equivalent variations or the concept of WTP and WTA (Brookshire *et al.*, 1982; Adler and Posner, 1999; Lusk and Norwood, 2009; Wijnen *et al.*, 2009). Fundamentally, it is a process of eliciting people's preference in terms of how much they are willing to pay for a satisfaction from a non-marketed good, seen as benefit or how much they are willing to accept for a loss in satisfaction from a non-marketed good. In the context of ULUP it means how much property owners/developers will be willing to pay for ULUP variables like sub-division planning scheme, formalised title, building permit and vice-versa when these variables are not available.

In eliciting responses for willingness to pay for a benefit or accept payment for a loss, the method, in the main, uses questionnaire survey (see Brookshire *et al.*, 1982; Kula, 1997, Alberini *et al.*, 1997; Akwansivie *et al.*, 2010). The rationale is to simulate a market for the good, which has no market and generate its value based on the hypothetical market created and presented to respondents (see Bravi and Curto, 1997; Hammond, 2006; Akwansivie *et al.*, 2010). As applied to this study, this may be describing vividly the ULUP variables and the applicable market conditions. The method requires respondents to be well informed about the good (Kula, 1997; Bravi and Curto, 1997; Akwansivie *et al.*, 2010). Additionally, since the method works on the presumption that individuals seek to rationally maximise their satisfaction subject to their socio-economic constraints, the survey usually collects socio-economic characteristics of respondents to enhance the data analysis (Kula, 1997; Bravi and Curto, 1997; Akwansivie *et al.*, 2010).

There are several approaches to eliciting bids from respondents on WTP and WTA. These include: the open ended elicitation method; bidding game and dichotomous choice method, which is sometimes referred to as the referendum method (see Bravi and Curto, 1997; 1998; Akwansivie *et al.*, 2010). The open elicitation method has to do with precise assessment of individuals own reservation price based on introspection analysis. Example of the question to elicit this bid is:

How much will you pay for a standard 3-bedroom house in Kwabenya, Accra if it is covered by an approved building permit?

The bidding game also usually takes the form:

Will you pay X amount for a standard 3-bedroom house in Kwabenya, Accra if it is covered by an approved building permit? No.....will you rather pay Z amount?

This process will continue until the respondent submits a bid. The dichotomous choice method comes in two forms; single and double bound choices and has gained popularity among contingent valuation practitioners lately due to its simplicity in the use of collected data (Calia and Strazzer, 1998; Hammond, 2006; Akwansivie *et al.*, 2010). With regards to the single bound method, respondents are required to answer yes or no if they are willing to pay a given amount for a non-marketed good. However, for the double bound method if the answer is in the negative, a further question is posed with a lower bid and vice-versa, until an acceptable bid is reached.

Following Davis (1963), CVM has gained wide application initially in the field of environmental economics (Brookshire *et al.*, 1982; Akwansivie *et al.*, 2010) and subsequently in the social policy arena (Bravi and Curto, 1997; McGranahan *et al.*, 2001; Wijnen *et al.*, 2009; Akwansivie *et al.*, 2010). The method's wide application is not limited to the developed world, but also in the developing world it has seen substantial application. For example, Abeka (2005) used the method to determine benefits individual household place on waste collection services in four depressed communities of Sukura, Nima, Ussher Town and Teshie in Accra, Ghana. More recently, Akwansivie *et al.* (2010) also used the method to estimate the willingness of residents of Kumasi and Accra, Ghana to pay for the cost of improving water quality in these areas.

This upsurge in the use of the CVM has been due to its rigorousness (see Brookshire *et al.*, 1982) and versatility to incorporate different components of value of a good and make respondents aware prior to submitting bids (Bravi and Curto, 1997; Wijnen *et al.*, 2009), a situation which is not possible under the hedonic model. Besides, the scope of the methodology is broad and does not depend on availability of data on peoples' actual behaviour (Wijnen *et al.*, 2009). That said, the method is said to suffer from hypothetical biases. This situation arises where there is a potential discrepancy between what people say they are willing to pay in a contingent market survey and what they actually pay when confronted with the real situation (Cummings *et al.*, 1986; Kula, 1997; Bravi and Curto, 1997; Lusk and Norwood, 2009). In fact, it is observed that such behaviours are pervasive and, on average, people tend to overstate their willingness to pay by a factor of three in hypothetical settings compared to actual situation where money is involved (see List and Gallet, 2001; Little and Berrens, 2004; Murphy *et al.*, 2005). Related to this problem are social desirability biases where respondents answer questions to please researchers or answer questions to conform to some social norms (Lusk and Norwood, 2009). Another problem with the method also has to do with the considerable resources involved in

carrying-out contingent valuation survey. Apart from the financial resources, the time required to brief respondents about the good and to fill questionnaires may be enormous. This in turn may not allow respondents to complete their decision-making process towards submitting a bid (Coursey *et al.*, 1987; Abeka, 2005; Hammond, 2006).

It has, however, been argued that a well-designed and carefully executed contingent valuation survey can produce accurate and useful information on household preferences (Cummings *et al.*, 1986; Abeka, 2005; Hammond, 2006; Akwansivie *et al.*, 2010). As such, several solutions have been prescribed to address the problems with the methodology. For example, it is suggested that hypothetical and social desirability biases are due to strategic behaviour to free ride and derive utility respectively (see Hammond, 2006; Lusk and Norwood, 2009). Therefore, methods, such as framing appropriate questions, the adoption of ex post calibration, the use of cheap talks to make respondents aware of these biases, and making people to submit bids for others to avoid subjectiveness and biases are recommended (see Abeka, 2005; Hammond, 2006; Lusk and Norwood, 2009).

4.2.4 Cost Estimation Methods

The methods discussed so far for calibrating economic impacts of ULUP policies are oriented towards estimating positive impacts of ULUP policies. Thus, they are, in the main, amenable to estimating benefits of ULUP policies. However, policies have both positive and negative economic impacts; benefits and costs. Therefore, any meaningful economic impact exercise should compare both impacts for proper decision making. This presupposes that examination of methods for estimating adverse impacts of policies or intervention is inevitable.

Traditionally, the idea of determining and comparing the positive and adverse impacts of policies has been within the welfare economic framework (see Harberger, 1971; Garber *et al.*, 1996; Pinkerton *et al.*, 2002; Khakee, 2003; Cheshire and Vermeulen, 2008). Several methods over the years have, thus, been developed from this perspective. These include: highly aggregated methods like cost-benefit analysis and cost effective analysis; intermediate methods like planning balance sheet (see Lichfield, 1966, 1996) and multi-criteria evaluation (see Vreker and Nijkamp, 2006); and highly disaggregated method like positional analysis (Khakee, 2003). Despite its several criticisms, it is the cost-benefit method that provides uniform basis; by reducing all impacts into monetary value (Adler and Posner, 1999; Stevens, 2004; Guo and Gandavarapu, 2010), and therefore, the most

appropriate in this study. The main technique for estimating cost from this framework has been the Harberger (1954) Triangle and the concept of deadweight loss.

4.2.4.1 The Harberger Triangle

The Harberger Triangle methodology emerged from the seminal work of Harberger (1954). The technique uses partial equilibrium analysis to estimate the social cost of regulation/policies by means of deadweight loss (Harberger, 1954; Tullock, 1967; Posner 1975; Wenders, 1987; Yoon, 2004; Hammond, 2006; Gümüs, 2007). The rationale behind the technique is that regulations like ULUP policies emerge because of minority interest, such as monopolists. Thus, monopolists rent seek to bring about regulations and since such regulations result in increase in price of goods and services above competitive price, society loses in terms of reduction in consumer surplus. Figure 4.1 illustrates the technique as applied to ULUP policies.

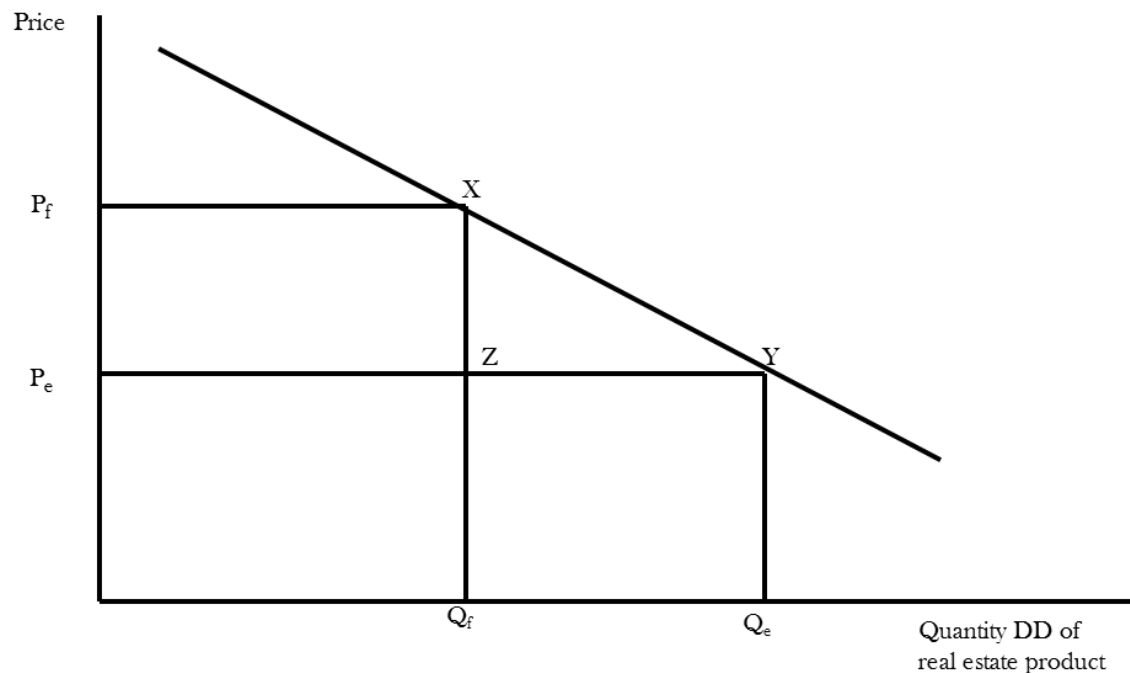


Figure 4. 1 Social Cost of ULUP Regime Requirements.

Source: Adapted from Harberger (1954)

From Figure 4.1, P_e and Q_e are price and quantity demanded of real estate product say 3-bedroom residential house under competitive market conditions. If, for example, government should introduce a regulation; say acquisition of building permit from planning authorities prior to construction that ends up in increasing the price of such house to P_f , quantity demanded will reduce to Q_f . This reduces consumer surplus by $(P_f - P_e)$ and creates a deadweight loss of triangle XYZ known as Harberger Triangle;

social cost of the regulation with additional effect of preventing some other people in society from enjoying the product.

While several studies on social cost estimation of regulations (see Stigler, 1956; Tullock, 1967; Posner 1975; Wenders, 1987; Antwi, 2000; Brown and Yoon, 2006; Hammond and Antwi, 2010) have adapted or are rooted in the Harberger Triangle technique, the method has not gone without criticisms. Studies, such as Tullock (1967) and Posner (1975) argue that monopolists in an effort to get regulation passed or undertake certain activities to enjoy monopolies spend resources which are waste to society. Consequently, the abnormal profit, that is, the area of rectangle XZP_eP_f in Figure 4.1 supposed to be enjoyed by monopolists feedback into rent seeking activities and, thus, must be calculated as part of social cost. Again, to neutralise the efforts of monopolists to get regulations passed, which will escalate prices of goods and services, consumers also rent seek and waste society's resources to prevent price increases. This, according to Tullock (1967) and Posner (1975), could double the social cost of regulation (see Wenders, 1987; Gümüs, 2007). However, data to authenticate these claims or otherwise are hard to come by (Gümüs, 2007).

Perhaps one of the greatest problems to this partial equilibrium estimation of social cost of regulation is the usually unknown nature of demand; that is elasticity of demand for goods and services regulation impinges on (Bertaud and Mapelzzi, 2001; Quigley 2007). Indeed, Hammond and Antwi (2010) in their work on economic impact of SSA real estate policies, for example, assumed the nature of demand for real estate products. However, to circumvent the data difficulties, Bertaud and Mapelzzi (2001) propose the Bertaud Model. The mechanics of the model is illustrated by Figure 4.2.

Figure 4.2 represents demand and supply situation for a common land use, road. P_x , L_s and D are the price, ideal supply of land (ideal baseline) and demand respectively for road. Given the demand for road, should a public authority regulate supply of land for road to say L_r , the social cost of such regulation can be calculated as $ABCI - ACE$. This is because more land is being devoted to road utilisation than what society actually wants. However, ACE (the nature of demand) is not known and $P_x(L_r - L_s)$ will not be a good measure of social cost because it abandons ACE . However, should the ideal supply on the basis of some international standards or local practices be shifted to L_b ; actual baseline, then area $ACGH$ will not count, but will imply a cost of AFG which is equally

neutralised by sized benefit of *GHE* neglected. Consequently, $P_x(L_r - L_b)$ or area *FBHI*, is considered as an approximation of *ABCI - ACE* and, hence, the social cost of land use regulation. The approach, therefore, sets limits for regulations/policies based on criteria, which could be local or international and estimates social cost as additional requirements of existing regulation which may include value of land and infrastructural costs as well as service charges.

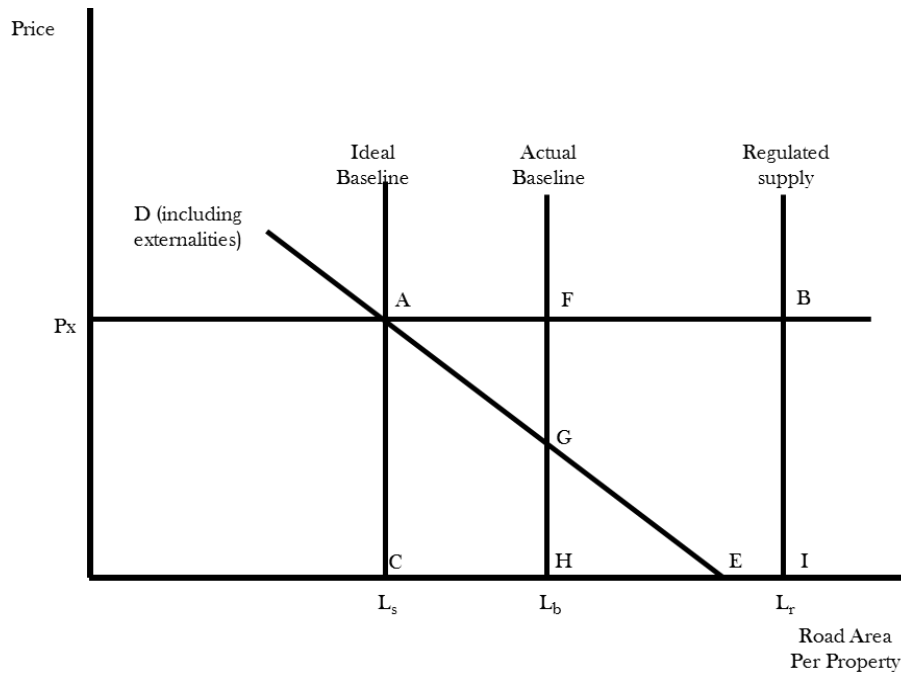


Figure 4. 2 Approximation of Cost of ULUP Regime Requirements.

Source: Adapted from Bertaud and Malpezzi (2001)

Even though the method looks simple and straightforward, and its use is not without precedent, having been used in countries like Malaysia, India, Thailand, Peru, Senegal and Russia, it requires considerable amount of resources (Bertaud and Malpezzi, 2001). Besides, the setting of baseline standards could be an onerous task especially where different local conditions in terms of standards in the informal land market exist. That said, questions have been asked as to whose cost and benefits do all these economic impact methodologies seek to address: is it individuals, companies or local authorities? Which cost and benefits, in geographical terms, should be taken account of? Should the decision relate to efficiency or also equity and social justice? (Lichfield, 1996). Even from the new institutional economics perspective and with particular reference to transaction cost, there is no clear cut methodology for its measurement (see Buitelaar, 2004; Musole, 2009) perhaps due to the controversy associated with the concept. Buitelaar (2004) outlined a procedure for its measurement using experience from the urban development processes in the Netherlands, but did not subject it to empirical testing noting that

transaction cost alone may not be useful unless compared with an appropriate barometer. Egbu (2007) and Egbu *et al.* (2008), applying insights from Buitelaar (2004), ended-up measuring transaction cost in time lag with respect to number of days it takes for a development right to be granted in Nigeria and description of the other transaction cost activities.

Given these numerous methodologies, their data requirements and complexities, it is, therefore, not surprising at all that there is lack of clear cut understanding of economic impacts of ULUP policies even in the developed world due to disagreements over findings from relevant studies (see Pollakowski and Wachter, 1990; Fischel, 1990; Pogodzinski and Sass, 1990; Foley, 1992; Keogh and Evans, 1992; Evans, 1996; Bramley, 1996; Adams *et al.*, 2005; Quigley and Rosenthal, 2005). Consequently, a bespoke methodology(ies) drawing on insights from these conventional methodologies and the conceptual framework as well as data peculiarities in SSA is required for this study. This is outlined in the subsequent sections.

4.3 Research Operationalisation Framework(s)

Insights from the devised conceptual framework (Chapter 2) espouse that for ULUP policies to achieve desired outcomes, they must provide incentives. The prime incentive, which is the core subject matter of this research, is the positive difference between the value of resources expended to adhere to the subject ULUP regimes' requirement(s) and the value of the end of such adherence from the standpoint of individual property owner/developer. Prior to prescribing a measurement framework for the cost and benefit of the subject ULUP regimes' requirement(s), the measurement framework for research objective (5) is first prescribed. That is, examination of the relationship between property owners' awareness of planning requirements and their perception of relevance of ULUP in Ghana on one hand, and compliance with ULUP requirements on the other hand.

4.3.1 Awareness & Relevance and Compliance with ULUP Regime Requirement

The binary logistic regression (Logit Model) was used to determine the strength of the outlined independent variables in determining or predicting compliance with ULUP regime requirement(s). The independent variables that were used are: awareness of ULUP regime requirement; relevance of ULUP; gender; education; and occupation. The last three variables were just added to the variables to ascertain the strength of male property owners, high level of education and formal sector employment in predicting the dependent variable. The logit model was used because the variables under reference were

nominal. Thus, the responses that were elicited from respondents were binary and required a model fitting known as maximum likelihood (Mathews, 2005). This is in tandem with observation that linear regression models give misleading outcomes when used to estimate nominal or categorical variables as predictors and that logistic regression gives a far better estimate of nominal variables (Mckelvey and Zovoina, 1975; Winship and Mare, 1984). Again, even though the logit model is unable to capture hierarchy of interrelationship between dependent and independent variables (Abeka, 2005), it allows for simultaneous analysis and a number of possible explanatory variables (Armitage and Berry, 1987) and, therefore, suitable for the subject study. It also requires limited association in contrast to multiple regression (Leech *et al.*, 2005). Though it is often used in the field of medicine, the model has also gained wide application in the social sciences due to its above discussed strengths (see Field, 2005; Abeka, 2005). Studies, such as Abeka (2005) and Baffour Awuah (2007, 2010) on the strength of the foregoing observation used the model in their works on ULUP and housing sectors in Ghana, while Boohene and Agyepong (2011) applied it in the telecommunication sector also in Ghana.

A typical logit model as applied to this research was premised on the idea that a property owner/developer with a certain characteristic (X) complies with ULUP regime requirement(s) (Y). Consequently, in deriving the logit model the probability that a property owner/developer with a certain characteristic (X) complies with ULUP regime requirement(s) (Y) can be written as:

$$P(x) = E(Y/X) \quad \text{Equation 4.5}$$

Where $-\infty \leq x \leq \infty$

$$\text{This can be written as: } P(x) = \frac{1}{1 + e^{-Z_i}} \quad \text{Equation 4.6}$$

Where $Z_i = \beta_1 + \beta_2 x_i$

This means $1 - P(x)$ is the probability that a property owner/developer will not comply with ULUP regime requirement(s) if he or she has the same characteristic. This can be

$$\text{written as: } 1 - P(x) = \frac{1}{1 + e^{Z_i}} \quad \text{Equation 4.7}$$

Where $Z_i = \beta_1 + \beta_2 x_i$

The linear equation model is unable to estimate the parameters in Z_i . However, the ratio of the probability that a property owner/developer complies with ULUP regime

requirement(s) to the probability that he or she will not comply with ULUP regime requirement(s) can be used to achieve an estimate of the parameters in Z_i . This is the odd ratio and is denoted as follows:

$$\frac{P(x)}{1-P(x)} = \frac{1+e^{-Z_i}}{1+e^{Z_i}} \quad \text{Equation 4.8}$$

Where $Z_i = \beta_1 + \beta_2 x_i$

The natural log of the odd ratio is the logit model and constitutes an estimate of Z_i and can be written as:

$$Z_i \ln[P(x)/1-P(x)] \quad \text{Equation 4.9}$$

Where $Z_i = \beta_1 + \beta_2 x_i$

The compliance with ULUP regime requirement(s) status of property owners/developers was recorded as 'Yes' and 'No', where there is compliance and otherwise respectively. This was subsequently, dummied as Yes=1 and No=0. The independent variables were also categorised into 1 and 2. That is, where property owners/developers are aware of ULUP regime requirement (s), it is recorded as 1 otherwise 2. The same was done for relevance of ULUP, where 1 was assigned to consideration of ULUP as relevant otherwise 2. For gender 1 was assigned to male and 2 to female; occupation, 1 was assigned to formal and 2 to informal; and education, 1 was assigned to tertiary level training otherwise 2. Given the foregoing, relating the compliance with ULUP regime requirement(s) of property owners/developers (dependent variable) to the set of independent variables can, thus, be simply modelled as:

$$\text{Log}[P(x)/1-P(x)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon \quad \text{Equation 4.10}$$

Where $P(x)$ is the condition that a property owner/developer with a particular characteristic complies with ULUP regime requirement; $1-P(x)$ is the condition that a property owner/developer with the same characteristic does not comply with ULUP regime requirement; β_0 is the normal regression intercept; β_1, \dots, β_n are the coefficients; X_1, \dots, X_n are property owners/developers characteristics; and ε is the stochastic error term.

4.3.2 Determination of Economic Incentive

To address the research question, it is imperative to determine whether or not SSA ULUP regimes provide prime incentive. This, as pointed out earlier, demands comparing

the value of resources expended in complying with the subject ULUP regime requirement(s) known as cost and the value of the ends of compliance known as benefit. This is illustrated by Figure 4.3.

Figure 4.3 also demonstrates the variables that feed into the cost and benefits of compliance with the subject ULUP regime requirement(s). It is noted that cost and benefits associated with compliance or otherwise with ULUP regime requirement(s) may go beyond an individual property level. This, for example, may include positive and negative externalities to adjoining planned and unplanned developments neighbourhoods (see Corkindale, 2004) and ULUP authorities administrative running cost and benefits. However, these impacts as indicated by Figure 4.3 were beyond the scope of this work. Similarly, zoning and certificate of occupancy requirements were also beyond the scope of this work due to data constraints. Consequently, the linkage of the summation of cost on all the cost variables to the summation of all the benefits of the benefit variables is what is required. Given the complexities associated with methodologies used in the developed world and their huge volumes of data requirements, a practical and innovative way should be adopted to calibrate these values taking into account the merits of the methodologies and SSA data peculiarities. This may require, for example, building cost from scratch and combining different methodologies.

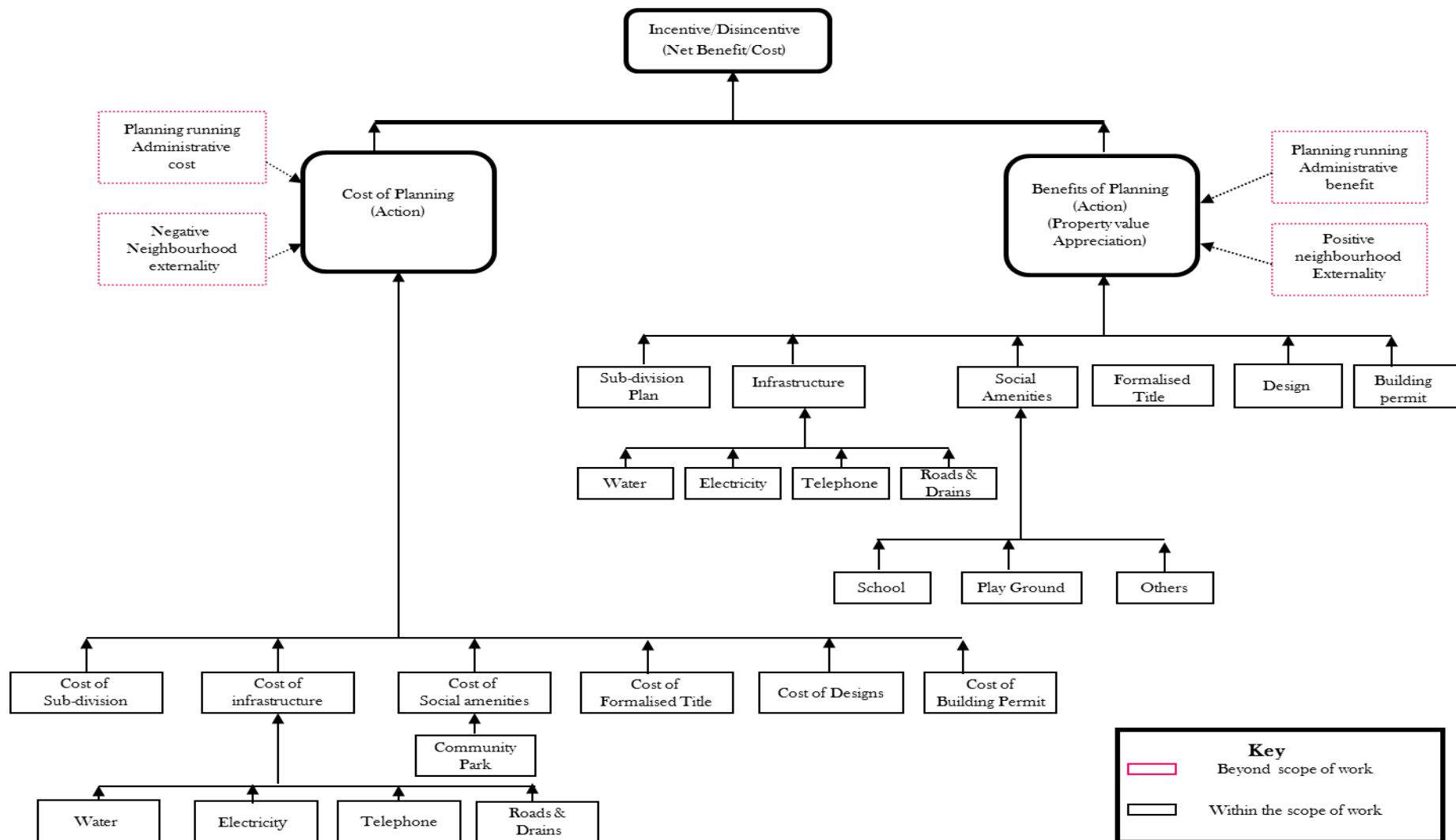


Figure 4. 3 Determination of Economic Incentive.

4.3.2.1 Cost Estimation

As outlined in chapter three, compliance with SSA ULUP regime requirement(s) regarding urban development within the scope of this research is a continuum of activities. These range from preparation and approval of sub-division planning scheme to acquisition of building permit prior to commencement of development, which are undertaken at both public and private sector institutions. It is also evident from the literature that, to expedite action on some of these activities, developers make follow up at these institutions and often make extra out of pocket payments to officials at the public institutions (see Farvacque and McAuslan, 1992; Antwi, 2000; Hammond and Antwi, 2010). These costs, which tend to swell the overall cost of complying with these ULUP regimes requirement(s), need to be taken into account where appropriate. Additionally, it is noted that in a typical planned neighbourhood there are common or ancillary land uses, such as infrastructural facilities, which benefit individuals and institutions within the neighbourhood. It, therefore, stands to reason that the cost of these land uses under normal circumstance should be apportioned among the beneficiary land uses.

The subject ULUP regime requirement(s) compliance requirements from Figure 4.3 are approved sub-division planning scheme, infrastructure and amenities, architectural designs, formalised title and building permit. Denoting cost of these activities as $\omega_1, \omega_2, \omega_3, \omega_4$, and ω_5 , respectively, the subject ULUP regime requirement(s) compliance cost per property can be calculated as follows:

1. Approved Sub-division Planning Scheme (ω_1)

$$\omega_1 = \frac{\kappa}{\delta} \times [(\alpha \times \gamma) \times (1+i)^n] + \varepsilon \quad \text{Equation 4.11}$$

Where ω_1 is as previously defined; κ is the area of land for the property and less or equal to δ ; δ is total area of land with uses that is subject to approved common land uses cost allotment under approved sub-division planning scheme and is less than γ ; α is approved sub-division planning scheme cost per hectare land under approved sub-division planning scheme; γ is the total land area under the approved sub-division planning scheme. $(1+i)^n$ is a compounding factor that takes account of cost of time lag, that is time value of money and has i as the capitalisation rate signifying cost of capital and n as time lag. ε is the error term that takes account of all measurement errors.

2. Infrastructure and Amenities (ω_2)

$$\omega_2 = \omega_{2_1}, \dots, \omega_{2_j} = \frac{\kappa}{\delta} \times [\varphi + (\mu \times \mathcal{G}) \times (1+i)^n] + \varepsilon \quad \text{Equation 4.12}$$

Where $\omega_2, \frac{\kappa}{\delta}, (1+i)^n, \varepsilon$ are as previously defined for example, $\omega_{2_1}, \dots, \omega_{2_j}$ is a range of particular infrastructure/amenity ω_2 can take on at a time; roads and concrete drains, electricity, community park; φ is the land cost for particular infrastructure/amenity; μ is cost of particular infrastructure/amenity per unit area of land under a sub-division planning scheme; \mathcal{G} is the extent of land; area particular infrastructure/amenity occupies under a sub-division planning scheme.

3. Architectural Design (ω_3)

$$\omega_3 = (\sigma + \lambda + \nu)(1+i)^n + \varepsilon \quad \text{Equation 4.13}$$

Where σ, λ, ν are the architectural design charge per property, commuting/transport cost for follow-ups on qualified architect or draughtsman per property design to ensure design completion and collection, and professional fee per property design for engagement of a property consultant to contract an architect/draughtsman to design and ensure completion of design respectively. All other variables are as previously defined.

4. Title Formalisation (ω_4)

$$\omega_4 = \left(\phi + \sum_{\chi=1}^i \chi \right) (1+i)^n + \varepsilon \quad \text{Equation 4.14}$$

Where ϕ is the official fee for formalisation of deed per property at public agency(ies); $\chi_1, \chi_2, \chi_3, \dots, \chi_i$ are variables, such as cost of deed per property, commuting cost for follow ups to expedite action on deed preparation, unofficial fee for formalisation of deed per property at public agency(ies), commuting cost for follow ups to expedite action on title formalisation activities. All other variable(s) are as previously defined.

5. Building Permit (ω_5)

$$\omega_5 = (\phi + \tau + \pi + \nu)(1+i)^n + \varepsilon \quad \text{Equation 4.15}$$

Where ϕ, τ are official and unofficial fees per property paid at public agency(ies) towards acquisition of building permit; π is the commuting cost per property for follow ups at public agencies to expedite action on processing of building permit and ν is the professional fee per property for engagement of a property consultant to pursue procurement of a building permit. All other variables are as previously defined.

Given the foregoing, the subject ULUP regime requirement(s) compliance cost per property can, thus, be assessed as:

$$UR_c = \sum (\omega_1 + \omega_{2_1} + \dots + \omega_{2_j} + \dots + \omega_5) + \varepsilon \quad \text{Equation 4.16}$$

Where UR_c is ULUP regime requirement(s) compliance cost per property. All other variables are as previously defined.

4.3.2.2 Benefits Estimation

Chapter two has demonstrated that the benefits of ULUP in the context of economics are reflected in property prices or values. Thus, the benefits of the subject ULUP regime requirement(s) compliance requirements upon their execution are reflected in property prices or values. This means that the subject ULUP regime requirements' compliance benefit can be extracted from property prices or values through the compliance requirements outlined by Figure 4.3 as variables. These are approved sub-division planning scheme, infrastructure (tarred roads and drains, electricity, pipe-borne water), social amenities (school), community, convenience shop, architectural design, formalised title, and building permit. Given that the research was interested in the cumulative benefit of compliance with ULUP regime requirement(s) and value or benefit contributions of each of the variables, and data constraints, two approaches to estimation of ULUP regime requirement(s) compliance benefits were adopted.

1. Approach One

Approach one initially adapted the CVM to procure property value data and then determined the value contribution of each of variables through OLS regression. The individual values were subsequently summed up to obtain the overall ULUP regime requirement(s) compliance benefit. Thus, with this approach, real estate valuers and agents guided by the recommended procedures for the CVM were asked to give their professional opinions as to the value of a prescribed property in the study area if it is in an area not provided with and covered by all the ULUP regime requirement(s) compliance

variables. Subsequently, they were asked to provide their opinions of value for the prescribed property if it is in an area provided with or covered by a particular planning regime requirement to the exclusion of the other requirements. Real estate valuers and agents were used as respondents because they were better placed by their training to provide comparatively more informed opinions of value. Besides, it was to assist in reducing the biases and subjectiveness that may have occurred with reliance on actual property owners.

The values reported where the property is without all the planning regime variables were dummied as 0 for all the variables. Conversely, where the property is associated with only a particular variable, a dummy 1 is given to that variable with the reported value or price while the other variables are dummied as 0s. This was then put in Equation 4.4 re-stated as:

$$\rho\chi = \beta_0 + \beta_2b + \beta_3c + \dots + \beta_n p + \varepsilon \quad \text{Equation 4.17}$$

Where $\rho\chi$ is the price or the reported values of the property if it is associated with only a particular variable and all other variables are as previously defined. ULUP regime requirement(s) compliance benefits per property can, thus, be expressed as:

$$UR_b = \sum (\beta_2 + \beta_3 + \dots + \beta_n) + \varepsilon \quad \text{Equation 4.18}$$

Where UR_b is the subject ULUP regime requirement(s) compliance benefit per property, which is a conglomerate of range of benefits, and $\beta_2, \beta_3, \dots, \beta_n$, the coefficients of Equation 4.17 are the ULUP requirement(s) compliance benefit(s) and all other variables are as previously defined. It is imperative to make the point that the practice of adopting the CVM to procure data for analysis using regression models, such as the subject approach is not without precedent in the extant literature. Hammond (2006) and Hammond and Antwi (2010) applied similar approaches relative to their studies on calibration of economic impact of SSA real estate policies. Such was also the approach used by Bertaud and Mapelzzi (2001) in their assessment of cost and benefits of land use regulation in Malaysia. The use of dummy variables in regression models to determine the coefficients or the magnitude of predictor variables to outcome variables is also acceptable and common in the literature (Field, 2005). In the discipline of real estate finance such practice is common (see Francis *et al.*, 2007; Price *et al.*, 2010).

2. Approach Two

The second approach also adapted CVM, but asked real estate valuers and agents to give their professional opinion of value of the prescribed property if it is associated with all the ULUP regime requirement(s) and if it is not, assuming other value determinants are the same. The difference in means of the two different groups of the reported values was adopted as the benefit of ULUP regime. Illustration of the calculation is as follows: let A_1 represent the group of values reported by respondents as the value of the assumed property if it is without ULUP regime requirements and A_2 be the group of values reported by respondents as to the value of the assumed property if it has all the ULUP regime requirements. The difference in means of the two groups (A_1 and A_2) can be calculated as:

$$UR_b = \mu_{A_2} - \mu_{A_1} \quad \text{Equation 4.19}$$

Where UR_b is the difference in means between the two groups of reported values by respondents representing the value of ULUP regime while μ_{A_1} and μ_{A_2} are the means of groups A_1 and A_2 respectively.

From the discussions, pitting the subject ULUP regime requirement(s) compliance benefit to the subject ULUP requirement(s) compliance cost to ascertain whether or not the subject ULUP regime provides prime incentive can, thus, be written as follows:

$$P_i/P_d = UR_b - UR_c \quad \text{Equation 4.20}$$

Where P_i/P_d is prime incentive/disincentive, an indicator of economic incentives/disincentives. If UR_c is less than or at least equal to UR_b , that is, where ULUP regime requirements compliance cost is less than or at least equal to ULUP regime requirements compliance benefit then there is prime incentive (P_i). This signifies planning regime's provision of economic incentives. Alternatively, should ULUP regime requirements compliance cost exceeds that of its compliance benefit then a prime disincentive (P_d) arises, an indication of planning regime's provision of disincentives.

4.4 Chapter Summary

To address the research question, there was a need to prescribe the means by which the variables in the central argument will be measured. This chapter, therefore, discussed

some of the quantitative methodologies used in the calibration of economic impact of interventions. The purpose was to outline a suitable measurement framework for the variables embedded in the conceptual framework. It was established that given the complex nature of conventional economic impact methodologies and their requirement of huge volumes of organised data, which are hardly encountered in SSA there was a need for practical and innovative means of capturing the economic impacts of SSA ULUP regime requirements. This was found in building cost impacts calibration methods from scratch and combining methodologies for calculation of the benefit(s). Having done so, it is now appropriate to show how the entire research was designed and data procured and analysed. The next chapter discusses that.

Chapter Five

Research Methodology

5.1 Introduction

The previous chapters have outlined the research background, framework, its central argument and how variables therein were operationalised. This chapter reports on how the overall research was designed. The purpose is to, *inter alia*, demonstrate how the investigation was structured to obtain an answer to the research question whilst controlling extraneous variables, as well as the plan that put the research process in motion. The chapter therefore opens a discussion on selection of research paradigm, strategy, population and sample, variables, the methods that were used to procure requisite data, how the procured data were analysed and the ethical issues considered.

5.2 The Research Paradigm

Paradigm is an elusive concept and appears to lack a clear cut definition (Guba, 1990; Kerlinger and Lee, 2000; Ellis and Crookes, 2006). The originator of the term Kuhn (1970), is said to have applied the term in twenty-one distinct perspectives (Guba, 1990). Paradigm, therefore, has wide discipline coverage. However, in the context of discipline inquiry, the paradigm question seeks to address the general principles or the philosophical realm within which a research should be undertaken (Guba, 1990; Clarke and Dawson, 1999; Creswell, 2007, 2009; Pansiri, 2009; Abdulai, 2010).

Several philosophical considerations are known in the extant literature to drive the discipline of inquiry. However, in the main, five of such considerations are oft-rehearsed. These are: ontology, which delves into what constitutes reality (knowledge), its nature and origin; epistemology, which is the scope of knowledge construed in terms of the relationship between the researcher (knower) and the phenomenon under inquiry; and methodology, which is how to find knowledge (Guba, 1990; Clarke and Dawson, 1999; Creswell, 2003, 2007, 2009; Pansiri, 2009). The rest are axiology, the value make-up of knowledge; and rhetoric, which is the language by which knowledge is, communicated (Creswell, 2003, 2007, 2009). Based mainly on the first three philosophical considerations, two research paradigms; the quantitative and qualitative research paradigms are often identified in the field of social science (Guba, 1990; Clarke and Dawson, 1999; Ellis and Crookes, 2006). However, a third paradigm known as mixed

methods or multi-methodology is increasingly gaining popularity (see Creswell, 2003, 2009; Johnson and Onwuegbuzie, 2004; Abdulai, 2007, 2010). Having outlined these research paradigms, it is now expedient to examine them and display how the paradigm for this research was selected.

5.2.1 The Quantitative Research Paradigm

The quantitative research paradigm also known as scientific, traditional and conventional research methodology (Guba, 1990; Kerlinger and Lee, 2000; Khakee, 2003; Hammond, 2006; Abdulai, 2010) dominated research until the 1970s (Clarke and Dawson, 1999; Khakee, 2003). The paradigm is originally rooted in positivist claims to knowledge which in itself is underpinned by empiricist tradition (Guba, 1990; Clarke and Dawson, 1999; Kerlinger and Lee, 2000; Creswell, 2009). These claims to knowledge advocate that the rationale for research is to expand verifiable knowledge. That is, knowledge allows explanation, prediction and understanding of empirical reality construed as the only reliable knowledge that can improve human condition (Nachmais and Nachmais, 1996; Khakee, 2003). This notion is based on realist ontology, which posits the existence of single objective reality in the world; absolute truth driven by immutable natural laws independent of human perception (Guba and Lincoln, 1981; Guba, 1990; Clarke and Dawson, 1999). However, with the emergence of post-positivism following nineteenth century works from the likes of Comte, Durkheim, Newton and, more recently, Phillips and Burbules (2000), the quest to achieve absolute truth; being 'positive' is said to be non-realizable (Creswell, 2003, 2009:p7). Phillips and Burbules (2000), for example, argue that knowledge is conjectural and anti-foundational, which signifies that evidence discovered in research is usually imperfect and fallible. Therefore, absolute truth is never attainable.

Despite pessimism of achievement of absolute truth, post-positivists still acknowledge the existence of single objective reality (Guba, 1990; Creswell, 2003, 2009). This single objective reality is, however, conceived as convergent, fragmentable and capable of being broken down into separate parts for examination. It is also deterministic; the existence of cause and effect relationship in a social problem (Babbie, 1990; Clarke and Dawson, 1999; Kerlinger and Lee, 2000; Winter, 2000; Creswell, 2003, 2009). Consequently, to post-positivists acquisition of knowledge on the single objective reality should be based on careful observation and measurement (Glesne and Peshkin, 1992; Creswell, 2003, 2009). This signifies the need for application of rational methods involving generation of numeric measurement of observation and verification of laws and theories that govern the

single objective reality (Boyd, 1991; Bogdan and Biklen, 1998; Clarke and Dawson, 1999; Creswell, 2009).

Driven by the foregoing positivist and post-positivist ontological creeds, advocates of quantitative research paradigm epistemologically adhere to objective stance in inquiry. This requires detachment of inquirers from subject matter of inquiry (Clarke and Dawson, 1999; Creswell, 2003, 2009). The essence is to prevent all forms of biases and subjectiveness in inquiry (Babbie, 1990; Nachmais and Nachmais, 1996; Hammond, 2006). Essentially, therefore, the quantitative research paradigm subscribes to a deductive approach to research, where causal explanation and prediction of outcome of phenomena follow a deductive logic form. The research commences with a theory comprising a set of interconnected general propositions that sets its hypotheses on the premise of logical reasoning. This is followed by prescription of operationalisation procedure for variables or constructs in the hypotheses. The hypotheses are then tested upon collection of empirical data based on a specified standard of reliability and validity to authenticate or otherwise, the theory (see Babbie, 1990; Denzin and Lincoln, 1998; Clarke and Dawson, 1999; Kerlinger and Lee, 2000).

5.2.2 The Qualitative Research Paradigm

Qualitative research paradigm in contrast emerged over four decades ago as an alternative to traditional quantitative or scientific research paradigm (Guba, 1990; Khakee, 2003). This research paradigm is underpinned by varied philosophical assumptions (Guba, 1990; Creswell, 2007, 2009; Pansiri, 2009). The paradigm is also described variously; naturalistic, constructionist, interpretivist, post-positivist, holistic-inductive (Clarke and Dawson, 1999) and comes in several designs (see Wolcott 1992; Denzin and Lincoln, 2005). These include grounded theory, ethnography, case studies, narrative and phenomenology (Creswell, 2007, 2009).

However, the qualitative research paradigm, in the main, is driven by social constructionist and interpretivist claims to knowledge (Guba, 1990, Clarke and Dawson, 1999; Creswell, 2003, 2009). These claims to knowledge rest on relative ontology (Guba, 1988, 1990), which construes reality as multiple, divergent and interrelated (Guba and Lincoln, 1981: p 57, 1990; Creswell, 2003, 2009). Thus, unlike positivists' claims to knowledge, it rejects the notion that there is a single objective reality out there in the world. The philosophical consideration underlying the qualitative research paradigm, therefore, professes that reality is not located in an objective external world or subjective

mind of the knower, but within dynamic transactions between the two (Barone, 1992: p31). Consequently, social constructionists hold the view that truth is a very elusive concept and cannot be objectively ascertained. Furthermore, it is perceived that reality is not a single entity. Rather, individuals and groups will construct their own versions of reality depending on their own socio-economic, political and cultural background and experiences. It is, thus, not for the researcher to identify which of them is close to the truth, but accurately record and report all the versions (Clarke and Dawson, 1999).

Epistemologically, social constructionists on the basis of their ontological position describe as untenable the detachment of researchers from object of research to avoid biases and achieve objectivity (Clarke and Dawson, 1999). In fact, social constructionists argue the idea of undertaking value free and neutral inquiry, in which the investigator becomes detached from the investigated, is a hoax. This is because quantitative researchers usually return to the human world as active participants to find explanation to their outcomes (see Torgerson, 1986 p36, 40). To this extent, qualitative research paradigm advocates that getting close to object or actors in an inquiry to understand their point of view and the social world is imperative. This signifies a clear case of scientific objectivity as in quantitative research and phenomenological subjectivity as in qualitative research paradigm (Clarke and Dawson, 1999). What is worthy of note is that this epistemological viewpoint of qualitative research paradigm advocates, among others, rests on the notion that there is a fundamental difference between natural and social phenomena. As such, the method adopted to investigate natural phenomena may not necessarily be suitable for social phenomena. Therefore, the qualitative research paradigm is inclined to inductive approach to research in which data is not collected to test hypothesis, but to derive broad generalisation from observed data (Clarke and Dawson, 1999; Creswell, 2007, 2009).

5.2.3 The Mixed Methods Paradigm

The mixed-methods paradigm otherwise known as multi-methodology is comparatively a recent development (Johnson and Onwuegbuzie, 2004; Creswell, 2009; Abdulai, 2010). The paradigm basically conceived as combination of the first two paradigms (Abdulai, 2007, 2010) predominantly comes in three designs; sequential, concurrent and transformational (Creswell, 2003, 2009; Abdulai, 2010). Though connected to several philosophical considerations, the central philosophical consideration that drives this paradigm is pragmatism (Creswell, 2003, 2009; Johnson and Onwuegbuzie, 2004).

The pragmatic philosophical stance rejects the existence of a single objective reality out there in the world as acknowledged by positivists and posits that inquiry, among others, takes place within historical, socio-economic and political context. From this philosophical standpoint, truth is what works at a particular point in time (Creswell, 2003, 2009). Consequently, researchers within this paradigm lay emphasis on the social problem at hand and its solutions. Therefore, the paradigm subscribes to amalgamation of philosophies, strategies, data collection techniques to ensure solution of social problems at hand (see Patton, 1990; Creswell, 2003, 2009; Johnson and Onwuegbuzie, 2004; Morgan, 2007).

5.2.4 Choice of Research Paradigm

The paradigm question has been a longstanding controversial issue described variously as the great paradigm wars (see Gage, 1989; Johnson and Onwuegbuzie, 2004) and paradigm problem (Chambers *et al.*, 1992) relative to the appropriateness of one paradigm over the other. However, there has been a recent shift in thinking to the effect that the paradigm question should not be about the superiority or inferiority of one particular paradigm to another (Guba, 1990; Creswell, 2003, 2009; Hammond, 2006; Ellis and Crookes, 2006; Abdulai, 2010). This is because the various paradigms have their own merits and demerits. Consequently, it remains a moot point to say that one paradigm is better than the other (Hammond, 2006). In practice certain paradigms are also more suitable to addressing some research problems than others. For example, it is argued the application of different methods to the same research problem will yield different results. Therefore, the adoption of inappropriate method is likely to lead to misleading outcomes with serious repercussions for application of such outcomes (Clarke and Dawson, 1999; Ellis and Crookes, 2006). Additionally, the adoption of a specific paradigm to address a particular research problem enables a consistent and systematic appraisal of the research and its findings (Ellis and Crookes, 2006).

Research paradigm in essence, thus, guides the process of inquiry and forms the basis for the practice of science (see Kuhn, 1970). It directs researchers to appropriate research strategies and methods given the nature of the phenomenon under investigation. Consequently, while there is a need to select a research paradigm, such a selection defies conventional logic of choice of alternative courses of action based on their strengths and weaknesses. Rather, such choices must be based on availability of resources, time,

research audience, experience of the researcher and most importantly the research problem (Creswell, 2003, 2009, Hammond, 2006; Abdulai, 2010).

The research, right from the outset, sought to devise a suitable analytical framework to investigate compliance with planning regulations and evaluate in quantitative terms the economic incentive/disincentive provided by SSA ULUP regimes using Accra, Ghana as the case study. This task required measurement of real world numerical data (see Evans, 1996) to test the framework devoid, to a greater extent, of biases. Given the preceding discussions, the quantitative research paradigm comparatively is more suitable to addressing the research problem. Consequently, the quantitative research paradigm was, in the main, adopted for the research. The research based on evaluation of the relevant extant literature, thus, adopted a suitable theory to devise an analytical framework from which general propositions were developed. Subsequently, the central argument of the research was constructed through logical reasoning. Then, operationalisation procedure was outlined and the research variables measured to test the central argument for validation or otherwise of the theory. The research process, as outlined by Figure 5.1, therefore, began with a background to the research based on which the research question was raised. Guided by the research question the relevant literature was evaluated to identify a suitable theory based on which the conceptual framework of the research was crafted. The framework was pilot tested, refined and ultimately subjected to the main testing upon collection and analysis of real world data after which conclusions were drawn.

It is imperative to note that the acknowledged research paradigms and the designs they prescribe are based on models in the developed world where, for example, there are up-to-date postal systems and availability of data. However, as indicated elsewhere in this thesis, such conditions are not the usual norm in the developing world. This means a practical technique, suitable to the conditions of SSA, was required to put the practical aspect of the research in motion. This, thus, leads to a discussion on the strategy adopted for the research

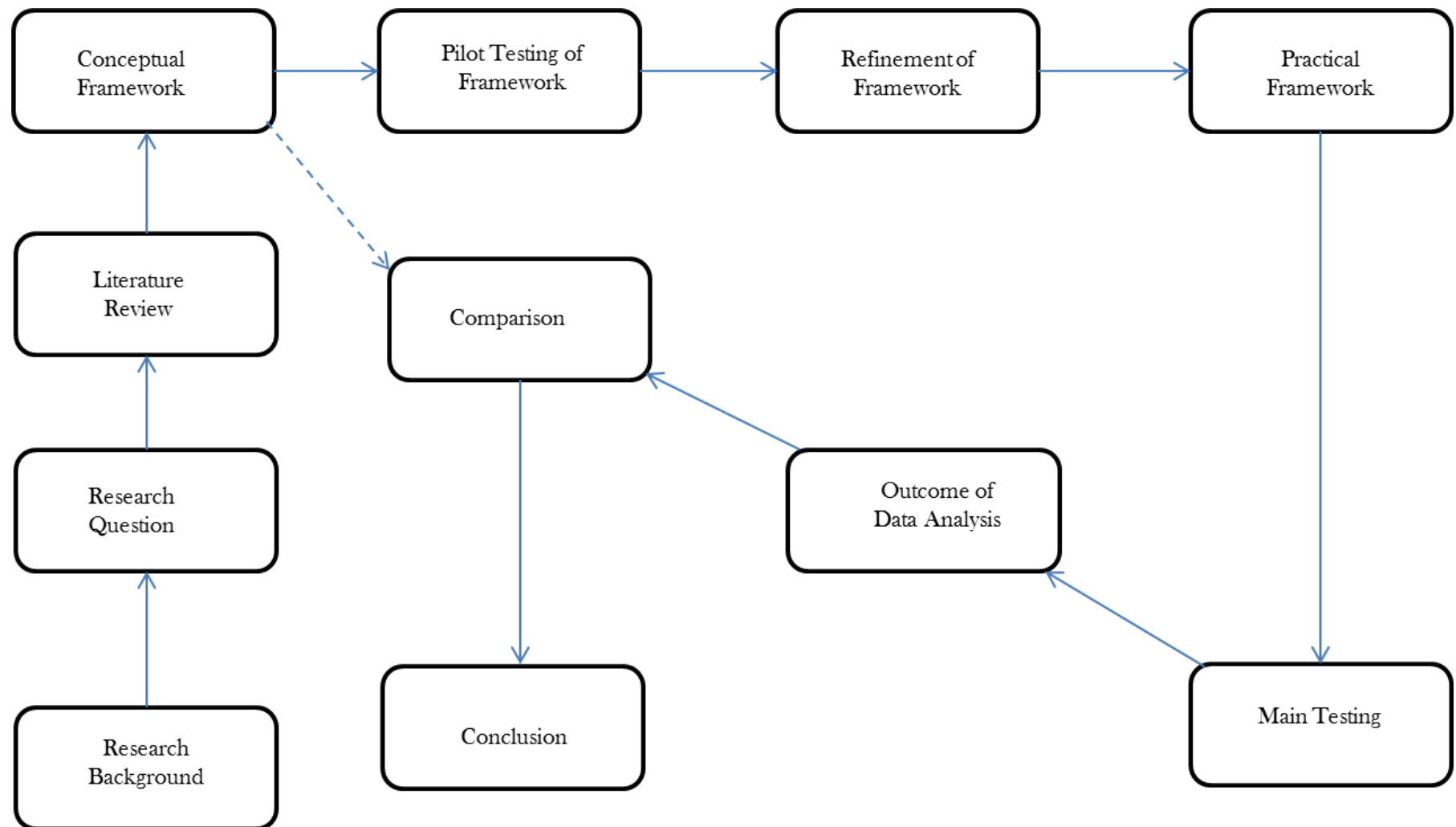


Figure 5. 1 The Research Process Adopted

5.3 Strategy of Inquiry

Several research designs pertain under the quantitative research paradigm (see Babbie, 1990). However, two of such designs usually encountered in the extant literature are the experimental and survey designs (Babbie, 1990; Nachmais and Nachmais, 1996; Clarke and Dawson, 1999; Creswell, 2009). The experimental research design is broadly classified into experimental and quasi-experimental designs (Nachmais and Nachmais, 1996; Clarke and Dawson, 1999). Though these research designs also have their sub-classifications, in general the idea of experimental designs is to determine impact or outcome of an intervention (Campbell and Stanley, 1963; Abdulai, 2010). For example, it may be to determine the impact of particular ULUP policy or regulation on housing production.

In its strongest form, however, which is usually associated with natural sciences, experimental designs are undertaken under randomised experiment (Nachmais and Nachmais, 1996; Clarke and Dawson, 1999). This operates with control and experimental groups. That is, with this design objects or participants under investigation in a research are randomly assigned to two groups; control and experimental groups. The experimental group is then manipulated through administration of the intervention. Consequently, any observed difference compared to the control group is attributed to the intervention (Babbie, 1990; Nachmais and Nachmais, 1996; Clarke and Dawson, 1999). The idea of randomisation is to ensure that each object or participant has the equal chance of being selected into any of the groups and control extraneous variables in order to promote accuracy and internal validity. Therefore, it is to ensure that same or similar results will be obtained using the same barometer, and promote common agreement in observation (Nachmais and Nachmais, 1996).

Despite its seemingly watertight approach, application of experimental design has not passed without criticisms. It is argued, for example, that not all observed changes established with experimental groups can be attributed to intervention. Factors not necessarily connected to intervention can cause observed changes, a situation that threatens internal validity (Reichardt and Gollob, 1989). In addition, the procedure for extracting observed changes following administration of intervention has been questioned. The practice has been that difference between experimental and control groups is not only compared. Inferences are also made on the observed difference and, as such, subject

to inferential errors capable of affecting internal validity of research findings (Mark and Cook, 1984: p75).

Beyond the foregoing, several other adverse concerns have been raised over the usage of experimental designs. These include procedure for selecting research objects/participants, attrition and maturation problems (see Campbell and Stanley, 1963; Mark and Cook, 1984). Of grave importance, however, is the general unsuitability of the design for studying social science phenomena. That is, studying phenomena in their natural setting and the huge cost implications for constituting control and experimental groups (Babbie, 1990; Clarke and Dawson, 1999; Creswell, 2003, 2009; Abdulai, 2010). This is further reinforced by the generally uniform ULUP policies and their application in SSA and therefore, unsuitability for constitution of control and experimental groups (see Monk and Whitehead, 1999; Hammond, 2006; Hammond and Antwi, 2010). Recourse was, therefore, made to survey design.

Survey design generally operates by soliciting information from people in their natural setting through answering questions posed by researchers or their representatives. The idea, *inter alia*, is to use the information gathered to describe and generate numerical tendencies and causal relationships of phenomena under inquiry (Totten *et al.*, 1999). The design occurs in two forms with varying attributes that inform a choice depending on the exigencies of an inquiry. These are cross sectional and longitudinal designs (Babbie, 1990, 2001; Nachmais and Nachmais, 1996; Abdulai, 2010). According to Babbie (1990, 2001) cross sectional designs collect information at one point in time, usually within a shortest possible time. The information so obtained is analysed with respect to the same time frame. The longitudinal design, conversely, comes in three different forms; trend, cohort and panel designs. However, in the main, longitudinal designs comparatively collect and analyse data on phenomena over a long period of time. For example, in trend design data is collected on general population at different points in time for a long period to determine trends (Babbie, 1990, 2001; Nachmais and Nachmais, 1996).

Given the limited time within, which the research was supposed to be undertaken, the cross sectional design was adopted. This means requisite information was solicited from the subject research participants at one point in time (from May, 2011 to November, 2011) and then description and numerical tendencies and relevant relationships established with respect to the said time frame. The choice of the cross sectional design was also reinforced by its comparatively inexpensive nature and the timely manner with

which data is collected (Totten *et al.*, 1999; Babbie 2001; Creswell, 2009; Abeka, 2005; Burton and Mazerolle, 2011). It is also flexible with data collection and analysis, and capable of measuring latent constructs. That is, variables that researchers cannot observe directly or quantify (Burton and Mazerolle, 2011).

Despite these advantages, the cross sectional design, like all survey designs, suffers from dealing with extraneous variables, unlike experimental designs (Clarke and Dawson, 1999). Besides, with survey design there is always the potential for respondents to misinterpret or misunderstand survey questions (Turocy, 2002; Burton and Mazerolle, 2011). Consequently, in implementing the cross sectional design in this research, carefully designed sampling and data collection methods were employed to counteract these problems to ensure validity (see Babbie, 1990; Nachmais and Nachmais, 1996; Creswell, 2003, 2009). This, thus, leads to a discussion on research validity.

5.4 Research Validity

In the discipline of inquiry, researchers regularly undertake complex choices of connecting concepts to observations. That is, relating ideas to facts. This gives rise to the issue of research validity (Adcock and Collier, 2001; Straub *et al.*, 2004). Research validation is, therefore, a fundamental element of the process of any scholarly endeavour (Lucko and Rojas, 2010) and critical to generation of scientifically valid knowledge (Kim, 2009). Without it, the foundation of research findings and their generalisation are threatened particularly in social sciences where subjective instruments are used in data collection (Kim, 2009; see also Burton and Mazerolle, 2011). Schocker and Zaltman (1977), for example, argue validation issues are key to development of a theory and progression of research from mere ad hoc responses to specific inquiries toward cohesive body of knowledge characteristic of disciplines (see also Kim, 2009). This suggests that even in qualitative research where the relevance and usefulness of research validation continue to be a subject matter of debate (see Winter, 2000; Pyett, 2003) perhaps due to its root and inclination to quantitative research (Pyett, 2003; Straub *et al.*, 2004), it is still a useful exercise (Morse, 1999; Pyett, 2003). Thus, research validity is essential in quantitative research paradigm (see Winter, 2000; Kerlinger and Lee, 2000; Golafshani, 2003).

Research validity addresses the question as to whether a research measures truly what it sets out to measure and how accurate it does the measurement (Kerlinger and Lee, 2000; Joppe, 2000). It addresses the question does the measurement process or the research

actually measure what it intended to measure? Research validity is usually discussed in conjunction with research reliability. Research reliability focuses on consistency of research results overtime and its accurate representation of a given population in a study (Joppe, 2000; Golafshani, 2003). Therefore, its aim is to ensure that repeated measurements of research phenomena under the same initial circumstances will produce consistent results (see Kirk and Miller, 1986; Charles, 1995; Abdulai, 2010). This suggests that reliability is a necessary condition for validity even though the reverse may not necessarily be the case (Schocker and Zaltman, 1977; Winter, 2000). However, the connotation of research validity reveals its depth and amenability to controversy. Indeed, it is conceived as elaborate yet elusive concept which borders on entire research design and its implementation (Schocker and Zaltman, 1977; Winter, 2000; Adcock and Collier 2001; Tuuli, 2009).

From Figure 5.2 Adcock and Collier (2001), for example, demonstrate that research validity commences with broad constellation of meanings associated with given concepts through to formulation of concepts as used by a particular researcher or group of researchers. In addition to this is the development of indicators relative to operationalisation and measures, and scoring of cases including both numerical scores and results from qualitative classification. Winter (2000) also argues validity is not a single, fixed and universal concept, but rather a contingent construct, inescapably grounded in the processes and intensions of particular research methodologies and projects. Diraby and O'Connor (2004), in agreement with Winter (2000), stress there is no single definition of ingredients or subsets of the concept of validity. The foregoing has, thus, made validation in research a very difficult and controversial exercise.

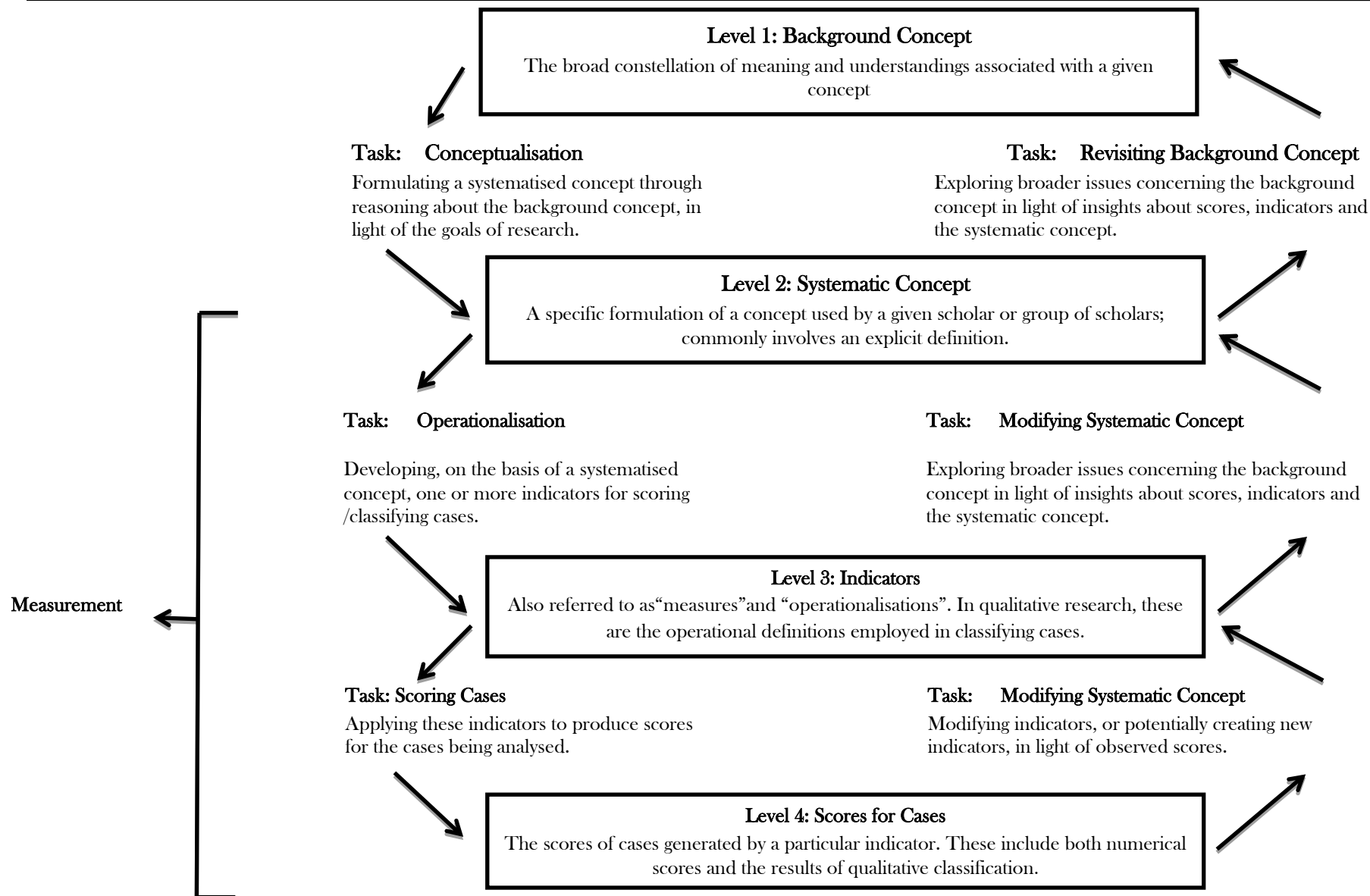


Figure 5. 2 Conceptualisation and Measurement: Levels and Tasks on Research Validation.

Source: Adapted from Adcock and Collier, 2001

The difficulty in addressing research validity is further exacerbated by a number of factors. Adcock and Collier (2001) in their treatise of the subject relative to political science identified four of such factors. These are difference in shared standards between quantitative and qualitative researchers, and the relation between validity and disputes about meaning of concepts, their clarification and refinement of which are fundamental to validity issues. The remainder is contextual specificity of validity, which occurs when a valid measurement in one context is invalid in another context, and the frequent confusing language used to discuss alternative procedures for validation. Earlier, Schocker and Zaltman (1977) had also outlined some constraints to research validity. Notably among them being the existence of a true measure or criterion against which empirical result or measure can be compared. Much as such conceived barometer rarely exists, the point of interest is that even where it does; it may be too expensive and time consuming to implement (see Schocker and Zaltman, 1977; Hammond, 2006; Tuuli, 2009).

Given the difficulties and controversies surrounding research validity, some researchers do not undertake research validation at all (Schocker and Zaltman, 1977). For example, Hammond (2006) owing to time and resource constraints could not undertake validation. Consequently, several recommendations are made in the literature to address the research validation question. Garson (2008) cited in Tuuli (2009) suggests that researchers should focus on addressing questions that can be raised about research validity rather than jumping into controversial issues, such as its definition. Other studies, such as Roschke (1994) and Kamat and Martinez (2003), consistent with Winter (2000) and Diraby and O'Connor (2004) observe that numerous studies discuss validity, but each of them uses slightly different definition of the concept and approach. This means that there are different types of validation, which researchers address depending on their research projects. As such, even studies, such as Hammond (2006), which is said to have not done validation in actual sense, undertook one of such validation types.

5.4.1 Types of Research Validation

Several types of research validities with different languages are identified in the literature (Adcock and Collier, 2001; Kim, 2009). Maxwell (1992) discusses five different types of validity namely descriptive, interpretative, theoretical, generalisability and evaluative validities. Also there are others such as face, content, construct and statistical conclusions validities (see Straub *et al.*, 2004; Kim, 2009; Burton and Mazerolle, 2011). However, two

types of research validities are generally distinguished in the literature. These are internal and external validities (Kerlinger and Lee, 2000; Lucko and Rojas, 2010).

Internal validity hinges on the legitimacy of results of a study due, *inter alia*, to the way research participants are selected, how data was recorded and analysis executed. A research, for example, may be said to have a poor internal validity if extraneous variables are not taken into account in the research design or analysis (see Kerlinger and Lee, 2000). Since discussions preceding and beyond this research validity section among others address internal validity, this section focuses on external validity. External validity relates to the authenticity of transferring results from a research to other population of interest (Maxwell, 1992; Winter, 2000; Kerlinger and Lee, 2000). Thus, it underpins the veracity of transferring findings of a research to another population of interest (Kerlinger and Lee, 2000) in terms of persons, settings, treatments and outcomes (Shadish *et al.*, 2002).

Three main interrelated ways are used to establish external validity. These are replication, boundary search and triangulation (Brinberg and McGrath, 1985; Tuuli, 2009). Replication espouses production of same research findings as an initial research undertaken upon application of same procedures as the original research (Brinberg and McGrath, 1985; Kirk and Miller, 1986; Charles, 1995). Much as replication may be a necessary exercise to confirm research findings and put to rest alternative explanations to a phenomenon, it is practically impossible to implement since no two situations are the same. Besides, it may require time and financial resources similar to an original research and therefore is seldomly used (see Hammond, 2006; Tuuli, 2009). Boundary search, conversely, relates to circumstances under which findings of a research may be valid and otherwise. This is also referred to as contextual specificity (Adcock and Collier, 2001). Boundary search is, however, determined over a long period of time through replication and triangulation (Brinberg and McGrath, 1985; Tuuli, 2009). Given the foregoing recourse was made to triangulation to externally validate this research.

Triangulation is premised on using multiple data source and approaches to support a research finding by demonstrating that independent measures of it, converge with it or at least do not contradict it (Denzin, 1978; Miles and Huberman, 1984; Ghayeb, 2011). Four main types of triangulation are identified in the literature. These are data, investigator, theory and methodological triangulations (Denzin, 1978; Mathison, 1988;

Farmer *et al.*, 2006; Ghrayeb, 2011). Data triangulation refers to the use of multiple data sources in the same study for validation purpose and comes in three forms; time, space and person (see Denzin, 1978; Hussein, 2009; Ghrayeb, 2011). These types of data triangulation is underpinned by the rationale that robustness of data can vary regarding the time data was collected, the people involved in data collection process and the setting from which data was collected (see Hussein, 2009). Investigator triangulation has to do with using more than two researchers in any of the stages of research for confirmation purpose (Hussein, 2009; Ghrayeb, 2011). Theoretical triangulation occurs when multiple theories are employed in the same study to confirm or refute findings. This operates on the rationale that different theories enable researchers appreciate the problem at hand and use multiple lens (see Hussein, 2009).

Unlike the already outlined types of triangulation, methodological triangulation is mostly used in social science research (Hussein, 2009). It refers to the use of more than two methods to investigate the same phenomenon (see Mitchell, 1986; Hussein, 2009; Ghrayeb, 2011). This type of triangulation has, however, been conceived at two levels in the research process; paradigmatic (combination of quantitative and qualitative paradigms) or data collection and analysis (combination of quantitative and qualitative data collection methods and analyses) in the same study (Hussein, 2009). Hussein (2009) outlines further that as a result of the foregoing, two types of methodological triangulation have emerged; the between- and within-method type of methodological triangulations, and with different purpose. Thus, while the between-method triangulation aims at achieving convergent and, thus, external validity, within-method triangulation seeks to achieve internal credibility of research findings (Hussein, 2009).

In an attempt to achieve external validity, a variant of the between-method triangulation similar to respondent validation adopted by studies, such as Phua (2004) and Ankrah (2007) in which research findings are sent back to respondents to validate was used. In this particular instance, telephone interviews were conducted with five ULUP and urban development experts in the case study country based on key findings from the research. Responses obtained from these experts were discussed together with the main research findings. These ULUP and urban development experts comprised of a chief lands officer at the LC, two public sector land use planners, private land use planner who was also estate development and public works consultant, and a private infrastructure development consultant. These experts were selected for the validation purpose because of their in-

depth insights and extensive experience in urban development issues in the study site, which span over twenty years.

From this discussion on research validity, it is now opportune to open a discussion on the research population and how sampling was applied. Prior to that, it is imperative to make the point that as part of the research process implementation, informants both in academia and practice as well as people who had information connected to the subject matter of investigation were consulted. These included urban development processes researchers and practitioners, government officials and some community leaders, among others. Information provided by these informants offered leads as to sources of requisite data, assisted in refining the conceptual framework and devising the sampling processes, among others. For example, it was through the interaction with officials at GEMA and the GAR TCPD that leads were provided as to the suitable area to select for the research.

5.5 Research Population and Sampling

The aim of this research is to evaluate in quantitative terms the economic incentive/disincentive provided by SSA ULUP regimes using empirical data from Ghana as the case study. However, as intimated in the preceding section, studying the entire country is impossible due to time and resource constraints. This, therefore, required samples to be drawn from the research population and then estimates and inferences made to the population. The literature generally identifies two types of sampling; probability and non-probability sampling (Babbie 1990, 2001; Czaja and Blair, 1996; Kerlinger and Lee, 2000; Abdulai, 2010).

5.5.1 Probability Sampling

Probability sampling works on probability theory (Czaja and Blair, 1996; Kerlinger and Lee, 2000). This emphasises the achievement of true representation. That is, sampling a given population by enabling each member of the population to have equal chance of selection to be part of the sample. The idea is to reduce biases if not to completely eliminate them from the selection process.

The probability sampling is also of different types. In the main, four types are usually encountered in the literature. These are simple random, systematic, stratified and cluster sampling (Czaja and Blair, 1996; Nachmais and Nachmais, 1996; Teddlie and Yu, 2007). The simple random sampling as its name connotes is a sampling exercise in which each

member of a given population or sample frame is identified and has equal chance of being drawn into the sample (Nachmais and Nachmais, 1996; Kerlinger and Lee, 2000; Teddlie and Yu, 2007). This means that the chance of a member being drawn into the sample is not affected by the selection or otherwise of another member of the given population or sample frame. This procedure is by chance and usually undertaken through drawing lots, the use of table of random numbers or computer programming (Abdulai, 2010). This could be laborious and tedious where large populations are involved.

Systematic sampling is a variant of simple random sampling. It operates on the presumption that a given population or sample frame follows a certain ordered pattern. The procedure is exercised such that every K^{th} member of a given ordered population or sample frame is selected to form a sample (see Nachmais and Nachmais, 1996; Kerlinger and Lee, 2000). The implication from the foregoing is that, this sampling procedure must be guided by two main factors; the standard interval for selection of members and the sample ratio, which is the proportion of members of a given population selected as sample. Comparatively, this sampling procedure appears to be simpler and less laborious to the simple random sampling. However, the procedure may require much tact and care in arranging members of a given population to avoid biases in selection of sample members.

Stratified sampling seeks to achieve a more representative sample of a given population compared to the first two sampling procedures discussed above. This goal is pursued by a principle in sampling theory known as homogeneity, which draws samples from homogenous subsets of a given heterogeneous population. By this procedure, therefore, a given population is usually divided into strata; for example, male and female, and in a random manner sample members are drawn from the strata based on their constituent proportion of the population (see Kerlinger and Lee, 2000; Teddlie and Yu, 2007; Abdulai, 2010). This sampling procedure is usually recommended for populations composed of sets of dissimilar groups because it allows attention to be given to groups that ordinarily would have been ignored, given the size of a population (Czaja and Blair, 1996; Kerlinger and Lee, 2000). Besides, the procedure reduces the amount of variability and cost associated with data collection and analysis taking into account the nature and size of the population (Abdulai, 2010).

Finally, cluster sampling, also known as area sampling, is usually used for populations that exist in groups and sub-groups known in social science inquiry as clusters (see Teddlie and Yu, 2007). Thus, in practice, researchers sometimes encounter situations where it is not feasible and economical to list all members of a population and sample them for a study. In such situations, recourse is made to cluster sampling. The mechanics of this procedure involves developing a sample frame consisting of samples as members. In other words, the clusters become individual members of the given population or sample units. This is then followed by sampling of the constituted sample units or the clusters by any of the already discussed sampling procedures. Per its nature, cluster sampling is usually recommended for large scale studies that cover large geographical samples with well-defined population boundaries (Teddlie and Yu, 2007; Abdulai, 2010). However, while the procedure saves time and cost in sampling due to its creation of opportunities to conduct expeditious interviews and reduction in travel time, it can be prone to biases (Teddlie and Yu, 2007; Abdulai, 2010). This is especially so where a given population is heterogeneous, but selected clusters end in homogenous samples. Additionally, the procedure is usually prone to large sampling error due to its two stage nature (Abdulai, 2010).

5.5.2 Non-Probability Sampling

Nachmais and Nachmais (1996) observe that non-probability sampling does not employ systematic techniques, such as randomisation in the selection of samples to eliminate biases. Therefore, it is sometimes perceived as weak (see Kerlinger and Lee, 2000; Abdulai, 2010). This perceived weakness, however, can be addressed by extensive knowledge and expertise of the researcher with regards to the issue under investigation, tact and care in sample selection and replicating studies with different samples (Czaja and Blair, 1996; Kerlinger and Lee, 2000; Abdulai, 2010). The non-probability sampling also comes mainly in four forms; purposive, quota, snowball and accidental or convenience sampling.

Purposive sampling, as the name implies, draws sample members/units on purpose. It operates where samples are intentionally drawn from a given population based on knowledge of the population, its elements/members and aim of the research and with the belief that the sample drawn will be representative of the population (Czaja and Blair 1996; Patton, 2002; Teddlie and Yu, 2007). This sampling procedure is usually used in

market research and case studies. Its greatest snag, however, is that it may be prone to researcher bias (Abdulai, 2010).

Quota sampling operates, firstly, with adequate knowledge of the characteristics of the given population, such as gender, race, age and employment status, among others, which are relevant to the phenomenon under investigation. Subsequently, proportions of the population that possess each of the population characteristics are determined to ensure that sampling reflect the distribution of the population with regards to its characteristics. In essence, the research population is partitioned into mutually exclusive groups, such as male and female and samples drawn from them in accordance with each group's constituent proportion of the population (Czaja and Blair 1996; Kerlinger and Lee, 2000). The rationale behind quota sampling procedure is to ensure that all sections of the population are taken into account in the sampling process, based on their proportional composition of the population. It is, therefore, a very useful sampling technique for opinion polls (Kerlinger and Lee, 2000; Abdulai, 2010).

According to Rubin and Babbie (2009) snowball sampling is usually resorted to in circumstance where research population is uncommon or dispersed, but has unique characteristics. The idea is to identify members of the given population through asking a few known members of the population. The technique proceeds by first identifying a member or few members of the given population who then lead(s) the researcher onto known member(s) of the population, who also subsequently provide such leads to the researcher. This process continues until the researcher gets the requisite information. The procedure works well when members of a given population know themselves and become more useful where sample frames are not available or are inadequate. Its problem, however, is that isolated members of the population may be excluded from the sampling exercise (Abdulai, 2010).

The accidental or convenience sampling is often regarded as the weakest of all the sampling procedures. This sampling procedure is used to describe situations where researchers based on readily members of the population available or even better still use volunteers to draw samples (Teddlie and Yu, 2007). This sampling procedure could be fraught with biases. Besides, there is the likelihood that samples drawn may not be representative of the population (Abdulai, 2010).

5.5.3 Sample Size Determination

Beyond the sampling technique adopted, or to be adopted, it is also imperative for researchers to consider the sample size for their research. Statistically and from the standpoint of probability sampling, sample size is usually determined by:

$$n = N / (1 + (\alpha^2)N) \quad \text{Equation 5.1}$$

Where: n = Sample; N = Total Population; and α = Marginal of Error. This means that to calculate a sample size, particularly in probability sampling there is a need for researchers to know the extent of the population or sample frame. While, in general, it is known that the larger the sample size, the closer the sample data is to the population (Nachmais and Nachmais, 1996; Kerlinger and Lee, 2000), in practice researchers need to ascertain how many responses will give them sufficient precision at affordable cost (see Field, 2005; Abdulai, 2010). The logical implication from the foregoing is that determination of appropriate sample size for a study does not follow any prescriptive method. However, such an exercise should be underpinned by how accurate and confident a researcher wants to be and the budget for the research (Abdulai, 2010). Having explained these sampling issues, it is now appropriate to look at how insights from them were brought to bear on the research.

5.5.4 Area Selection

Chapter one has already demonstrated that Ghana is divided into ten regional administrative clusters. The chapter further indicated that the country has a total population of about 18,913,000 people. Table 5.1 gives details of the ten regional administrative clusters and their populations. From Table 5.1, Ashanti and the Greater Accra Regions are the most populated administrative regions. The Ashanti Region has a population of about 3,613,000 while the Greater Accra Region has a population of about 2,906,000. Table 5.1 again reveals that the two administrative regions with the least populations are the Upper West and the Upper East Regions. The former has a population of about 577,000 with the latter accounting for about 921,000. Adopting random sampling procedure, any of the administrative regions could be selected for the research. This means that least populated regions like the Upper West Region can be selected, but by numerical strength, such a region cannot be representative enough. However, it is also known from chapter one that the phenomenon under investigation

focuses on urbanism. This makes urbanisation a major issue for consideration in selecting an area for the research.

From Table 5.1, the two largest regions in terms of population are also the most urbanised regions in the country. Amongst the two regions, the Greater Accra Region is the most urbanised accounting for 87.5% as against that of the Ashanti Region, which is 51.3%.

Table 5. 1 Regional Distribution of Population in Ghana

Region	Total Population	Urban Population	Urban Proportion (%)
All Regions	18,912,079	8,274,270	43.8
Western	1,924,577	698,418	36.3
Central	1,593,823	598,405	37.5
Greater Accra	2,905,726	2,547,684	87.5
Volta	1,635,421	441,084	27.0
Eastern	2,106,696	727,914	34.6
Ashanti	3,612,950	1,858,065	51.3
Brong Ahafo	1,815,408	678,780	37.4
Northern	1,820,806	433,790	26.6
Upper East	920,086	144,282	15.7
Upper West	576,583	100,348	17.5

Source: Adapted from GSS 2005a and 2005b

The Greater Accra Region's population and urban growth are clustered within Accra, the capital city of Ghana and its environs (see Accra Strategic Plan, 1991, 1993; Songsore, 2004, 2009; ISSER, 2006; Owusu, 2008). With an annual growth rate of 4.3%, Accra is one of the most populated and fast growing metropolitan areas in Africa (UN-Habitat, 2009b). From a small coastal settlement with a nucleus of three settlements, namely James Town, Ussher Town and Osu, Accra since it became the capital of Ghana (in 1877) has grown to become a big city (see Strategic Plan of Accra, 1991, 1993; Parker, 2000; Oduro, 2010). Officially, from a comparatively small land area of 10km² in the latter part of the nineteenth century, Accra (by 2000) occupied a land area of about 777km² with a population of 1,657,856 (Oduro, 2010). Also, apart from Accra being the political, administrative and commercial seat of Ghana, it is the second most industrialised city, contributing about 10% to Ghana's GDP and serves as a home to more than 30% of manufacturing activities (UN-Habitat, 2009b). These, among others attract people and other economic activities from within and outside the country and, therefore, continue to push the frontiers of the city outwards.

Accra has grown to engulf its adjoining districts, which together with the city form GAMA. The city's population is unofficially estimated at over 4,000,000 people. The constituent areas of GAMA (as shown by Figure 5.3) are Accra Metropolitan Area, Tema Metropolitan Area and Ledzokuku Krowor, Ashiaman, Adentan, Ga East, Ga West and Ga South Municipal Areas. Oduro (2010: p89) points out that even though Accra Metropolis and the other districts are separate administrative jurisdictions, they are so physically and functionally integrated that many residents are unaware of the existence of administrative demarcations. Accra Metropolis has become employment and service centre, while majority of the communities in the adjoining districts are conceived as "dormitory towns" for both waged workers and the self-employed. Consequently, the name "Accra" is usually used for the Metropolis itself and the contiguous built-up and developing areas. Given the foregoing, Accra, in addition to its current growth and expansion, reflects a typical African city (see Antwi, 2000; Hammond, 2006; Hammond and Antwi, 2010). As such, it was purposively sampled as the setting from which the reference point (area/neighbourhood/community) for the research was selected.

Within Accra the Kwabenya community was also purposively selected as the reference point for the research. Kwabenya is a community located on the fringes of the city of Accra and falls within the Ga East Municipality, the political and administrative jurisdiction. The community is about 25km east of the city of Accra and about 16Km west of Abokobi, the capital of Ga East Municipality. The exact location is shown on Figure 5.4 (see Chapter 6 for a full background on the community).

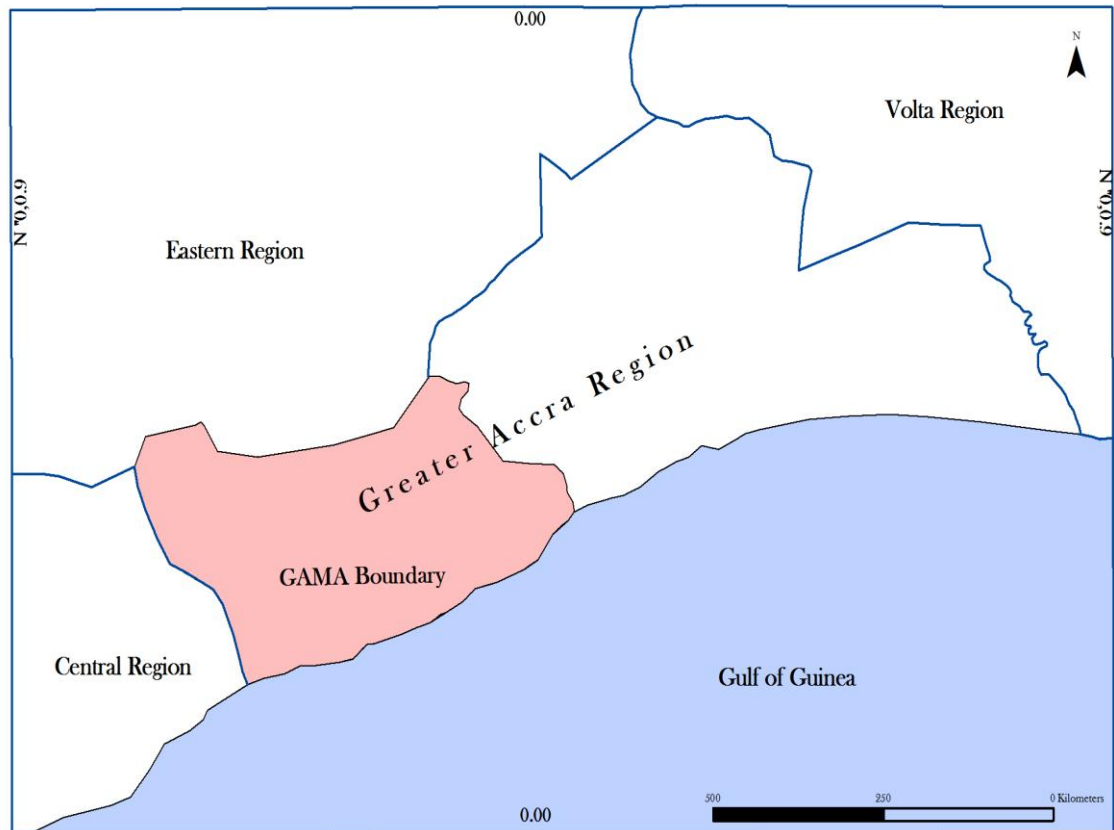


Figure 5. 3 Boundary Plan of Greater Accra Region showing Boundary of GAMA.

Source: Extracted from Maps at Ghana's Survey Department

Kwabinya community was selected for a number of reasons. Firstly, as observed by Songsore (2004), Owusu (2008) and Oduro (2010), the urban transition taking place in Ghana, particularly in the city of Accra, is on the fringes. Therefore, in studying urban transition connected issues in Accra, there is a need for a peripheral community (ies) that reflects the characteristics of the current urban transition. It is known, however, that districts, such as Tema Metropolitan Area and Ledzokuku Krowor and Ashiaman municipalities, are already fully built and integrated into Accra (see Oduro, 2010). However, portions of Ga East municipality particularly Kwabinya and its environs are under transition. This makes the community suitable for a study, such as the present one. Secondly, unlike other peripheral communities, which are not covered by approved planning schemes, Kwabinya community is covered by approved planning schemes. Besides, since Kwabinya and its adjoining areas are under transition, areas close to the community without certain ULUP regime requirements were available as comparables to enable respondent valuers and estate agents to submit informed values with regards to the CVM survey. Again, accessing data on urban development activities from respondents in already built up areas is usually difficult because respondents might have forgotten their

experience due to effluxion of time. Comparatively, such data can easily be accessed on Kwabenya since respondents may have dealt with such developments activities not long ago or may be dealing with them. In addition to this is the researcher's deep insight into urban development activities in Kwabenya and access to official documentary data on the community.

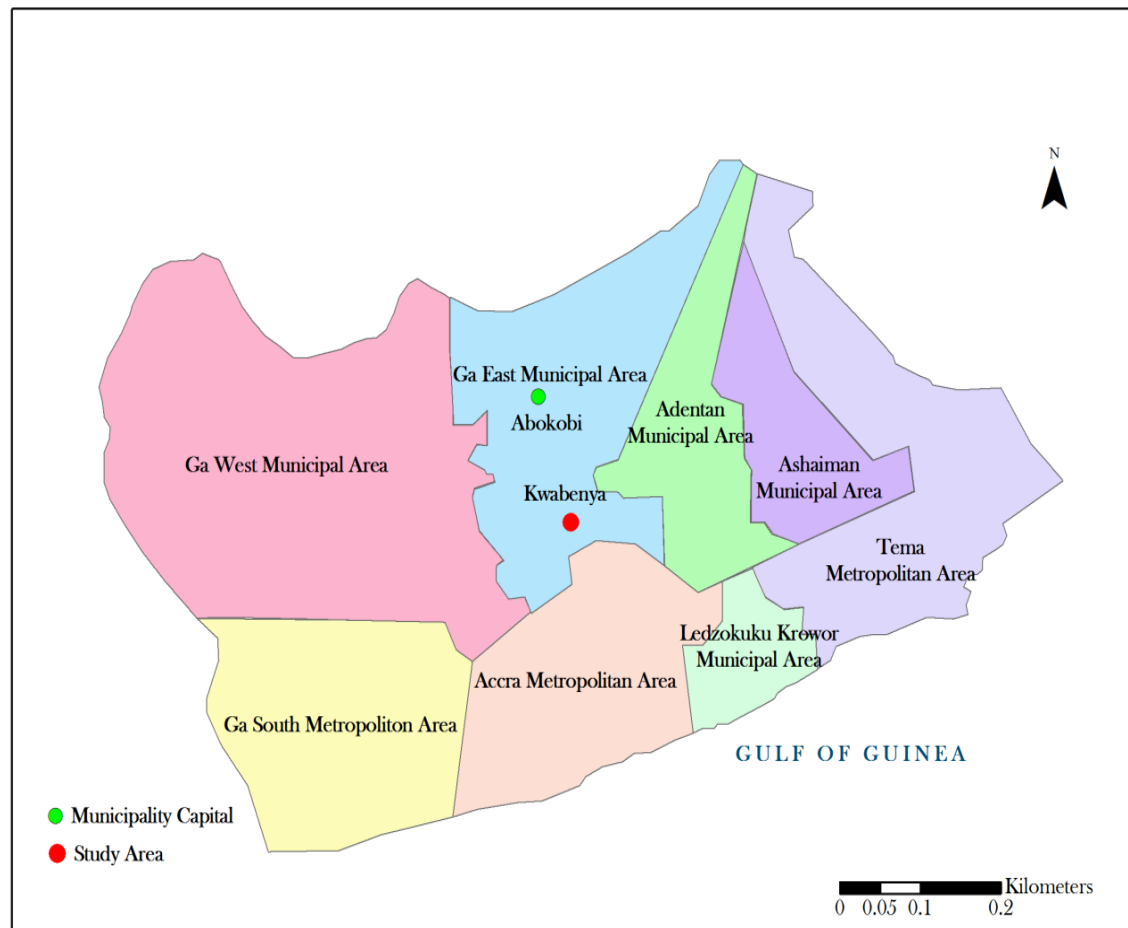


Figure 5. 4 Composite Plan of GAMA showing Study Area.

Source: Extracted from Maps at Ghana's Survey Department

5.5.5 Selection of Research Participants

The crafted conceptual framework for the research in chapter two outlined that examination of the phenomenon under investigation is to be done from the standpoint of individual property owners/developers. This implies individual property owners/developers within the geographical limit for the research constitute the unit of analysis and, thus, the research population. However, the literature discussions and the information obtained from the informants established that majority of the unit of analysis in SSA do not comply with ULUP regimes requirements. For example, it is estimated

that between 15–20% of property owners in SSA have formalised titles to their properties (Fourie, 1998). Indeed, in Ghana, formalisation of titles to property is estimated at 5% (LAP, 2009)¹. Besides, those who even comply with ULUP regime requirements usually engage the services of professionals or may not remember aspects of the issues involved in complying with the requirements. Given the foregoing, obtaining all the requisite information from the actual research population was not feasible. As such, property owners were sampled for certain aspects of the research, while some professionals involved in the urban development processes were also sampled as proxies to property owners in the other aspects of the research. These professionals were relied on because they deal with urban development activities on regular basis. Therefore, the presumption was that they are very much abreast with ULUP regime requirement issues and are comparatively better placed to provide the requisite information for the research.

In essence, research participants were selected based on the major themes for the surveys. Five (5) different surveys were undertaken (see Table 5.2). In so doing, members of the professional categories who had the experience and often dealt with the subject matter of each of the surveys, which used professionals involved in the urban development processes in the study site, were selected as participants for that particular survey. Thus, in the survey to establish relationship between characteristics of property owners/developers and their compliance with ULUP regime requirements, property owners were used as participants. With regard to estimating cost of compliance with ULUP regime requirements real estate valuers, real/land estate agents and lawyers were used as participants for title formalisation cost survey. For cost on architectural design survey real estate valuers, real estate managers and then real estate agents were used as participants. It is imperative to state that architects and draughtsmen were not used as participants because they deal with only an aspect of the cost under reference – design cost. Besides, it was also noted that most architects usually find it difficult in the study site to indicate a charge for a design on a standard 3-bedroom house given the comparatively small magnitude of work involved. As such, it was considered most appropriate to rely on professionals who had experience with all the aspects of architectural design cost. In the case of acquisition cost of building permit survey, real estate valuers, real estate officers/managers, real estate agents, lawyers and architects/draughtsmen were used as participants. For each of the three surveys, a total of 100 respondents were sampled. Apart from giving sufficient

¹ The data was obtained from records at the LAP office in Accra.

prediction, the above sample sizes were adopted because of time and resource constraints.

The survey on benefit of ULUP regime requirements used real estate valuers and real estate agents who had minimum of five years working experience as participants. Five years working experience was used as the criteria because it is the working duration for which professional members of GhIS, the accredited professional body for real estate valuers, upon its completion are assumed to be matured and can practice on their own. In all, a total of one hundred and three (103) of these respondents were sampled. However, given that the predictor variables for examination, which were twelve (12) in number (see Table 5.4), a sample size in excess of three hundred was required for precision based on the use of OLS regression as an estimator or an analytical tool (see Field, 2005). Practically, this was unattainable given the time and resource constraints as well as unavailability of requisite respondents. That said, questions that solicited data on these variables were mutually exclusive of each other. As such, responses on the variables were treated as observations, which were comparatively larger and suitable for the requisite analysis given the prediction that the study envisaged. Consequently, for every response on a variable, additional eleven responses were generated on the other variables through dummied the response on the actual variable as '1' and '0s' for all the other variables. 102 responses were arrived at with regard to questions on each variable. Again, since the design for this particular survey was a repeated measure design, there was a need for a prior controlled variable based on which the effect of the predictor variables could be measured (see Section 5.7.1). As such, for responses from question on the controlled variable all the predictor variables were dummied as '0s'. This meant that thirteen (13) questions were asked and one hundred and three (103) responses were received for each of the predictor variables signifying a total of one thousand, three hundred and thirty-nine (1339) observations. This practice of using responses as observations is common in the real estate finance literature (see Francis *et al.*, 2007; Price *et al.*, 2010). It is to be noted that the one thousand, three hundred and thirty-nine (1339) observations were used solely for the OLS regression; approach one (see Chapter 4). Approach two, which relied on difference in means of the reported values by respondents, however, stuck to the original one hundred and three (103) respondents.

Table 5.2 gives details on the breakdown of the size and composition of samples for the research. The survey of property owners focused solely on those in the Kwabenya

community and adapted insights from systematic sampling technique, albeit without a sample frame (see Section 5.7.2.3). The remaining surveys were concentrated in Accra and its environs, and relied on a combination of purposive, accidental and snowball sampling techniques due to lack of adequate and reliable sample frame. The researcher was not oblivious of the existence of the yearly list of professional members in good standing published by professional institutions, such as GhIS, Ghana Bar Association and Ghana Institute of Architects. However, these lists are usually not up to date and come without forwarding addresses or location of members. Quite apart from that members of these institutions have their own specialisation and particular locations they focus on. This means that some members' areas of specialisation may not necessarily be the subject matter of this research. Therefore, relying on such sample frames could lead to selection of members who may have no idea of the subject matter of the research.

Table 5. 2 Research Participants

Survey	Research Participant(s)	Sample Size
1	Residential Property Owners	100
2	Real Estate Valuers	100
	Real Estate /Land Agents	
	Lawyers	
2a	Real Estate Valuers	100
	Real Estate Officers/Agents	
2b	Real Estate Valuers	100
	Real Estate Officers/Managers	
	Real Estate/Land Agents	
	Lawyers	
	Architects/Draughtsmen	
3	Real Estate Valuers	103
	Real Estate/Land Agents	

1= Survey on relationship between property owners' characteristics & ULUP regime compliance requirements, 2= Survey on estimation of title formalisation cost, 2a= Survey on Estimation of Architectural Design cost, 2b= Survey on acquisition of building permit cost and 3= Survey on Estimation of ULUP regime requirements' compliance benefits

Ordinarily, a single survey should have been undertaken for the professionals involved in the urban development processes to minimise duplication of efforts. However, as noted

in (Chapters 3 and 4) compliance with the requirements of the subject planning regime entails numerous distinct activities. This meant that majority of the different categories of professionals alone by their training and experience, were not going to be in the position to provide the requisite information for the study. Even professionals within the real estate valuers' and agents' categories who by virtue of their training should have been able to provide the requisite information on the various activities, it was realised that most of them specialise in their practice. Also, designing a single questionnaire survey for such numerous, but distinct activities would have been complex quite apart from the fact that individual questionnaires would have been bulky. This in effect would have adversely affected the questionnaire administration and the response rate (Clarke and Dawson, 1999; Totten *et al.*, 1999). Confronted with such practical difficulties and based on discussions with relevant informants, undertaking four distinct surveys was more expedient to target relevant professionals to obtain the requisite information for the study. In so doing, the questionnaire administration for all the four surveys were undertaken concurrently to reduce duplication of efforts.

The foregoing notwithstanding the possibility of using some of the respondents in more than one survey was recognised. However, this was not anticipated to affect the validity of the study given that the four surveys were distinct and dealt with different issues. Besides, where it was anticipated to affect the validity of findings, appropriate statistical tools were used to rectify the necessary anomaly(ies) (see for example Section 8.3).

In addition to the above participants, a number of state and quasi-state agencies and departments were also involved in the research. These agencies are the DUR, DPG, and TCPD. The remainder is the ECG, VGL and GWCL. Overall, schedule officers for the research area and officers with expertise on the subject matter of the inquiry from these institutions were used as participants. Table 5.3 gives details on the institutional participants.

Table 5.3 Institutional Research Participants for the Study

Institution	Number of Participants	Remarks
DUR	2	GEMA Municipal Roads Engineer
		Municipal Roads Quantity Surveyor
DPG	2	GAR Director
		GAR Estimator
TCPD	2	GAR Director
		ULUP Officer
ECG	2	Schedule Engineer for GEMA
		Schedule Estimator for GEMA
VGL	2	Schedule Engineer for GEMA
		Schedule Estimator for GEMA
GWCL	2	GAR Engineer/Manager
		GAR Operations Manager
Total	12	-

5.6 Research Variables

Table 5.4 exhibits the research variables. From Table 5.4 compliance with ULUP regime requirement, ULUP regime compliance cost and ULUP regime compliance benefit are the dependent variables or outcome variables for the research. However, to reiterate one of the fundamental issues that engaged the discussions in the preceding chapter (Chapter 4, Figure 4.3), the latter two dependent variables were pitted against each other in a bid to address the research question. As such, from the conceptual framework in chapter two and the subject discussions in chapter four, ULUP regime requirements compliance cost and benefit, thus, become independent variables to prime incentive/disincentive, the dependent variable.

As regard compliance with ULUP regime requirements, even though the strength of the independent variables was also examined with respect to compliance with formalisation of title requirement, it was proxied on satisfying the requirement of acquisition of building permit prior to development. This particular requirement was used as a proxy because satisfaction of it ideally signifies compliance with all the other requirements. Besides, it was practically impossible to measure the relationship between compliance with all the ULUP regime requirements and characteristics of the property owners due to time and resource constraints. Characteristics of the property owners, which the research focussed on, were their awareness of ULUP regime compliance requirements and perception of relevance of ULUP in Ghana. The remainder was their gender, educational level and occupation. From Table 5.4 the first two independent variables, as explained in chapter

four, were drawn from the conceptual framework, while the others were just additions from background characteristics of respondents. Educational level and occupation of respondents were, however, defined in terms of tertiary and below tertiary levels, and formal and informal, respectively. Furthermore, formal occupation was taken to mean engagement in the formal sector of an economy, such as the civil and public service, banking, insurance, teaching and consultancy services. The informal occupation, conversely, meant engagement in the informal sector of an economy and includes jobs like trading, plumbing, tailoring, masonry and carpentry, among others (see Antwi, 2000).

Table 5. 4 Research Variables used in the Study

No.	Dependent (Outcome) Variable	Predictors
1	Compliance with ULUP Regime Requirement	Gender
		Educational Level
		Occupation
		Awareness of ULUP Regime Requirements
		Relevance of ULUP
2	Formalisation of Title to Land Cost	Cost of Deed
		Official Fee for Formalisation
		Unofficial Fee for Formalisation
		Commuting Cost
		Cost of Time Lag
2a	Architectural Design Cost	Professional Fee
		Cost of Design
		Commuting Cost
		Cost of Time Lag
2b	Acquisition of Building Permit Cost	Professional Fee
		Cost of Scheme/ Unit Land Area
		Official Fee for Permit Processing
		Unofficial Fee for Permit Processing
		Commuting Cost
2c	Sub-Division Planning Scheme	Cost of Time Lag
		Professional Fee
2d	Infrastructure & Community Park Cost	Land Size
		Cost of Infrastructure/Community Park/Unit Land Area
3	ULUP Regime Requirement Compliance Benefit	Land Cost
		Sub-Division Planning Scheme
		Tarred Roads & Concrete Drains
		Electricity
		Pipe-Borne Water
		Telephone Facilities
		Community Park
		Worship Centre
		School
		Convenience Shop
		Formalised Title
		Architectural Design
		Building Permit

In the case of ULUP regime compliance cost, apart from sub-division planning scheme and infrastructure and amenities costs, all the other requirements virtually had the same variables, albeit they need explanation. The cost of deed refers to expenditure on site plan, drafting of deed and their related costs of making a deed acceptable for processing towards formalisation. Official fee for formalisation is statutory fee charged at public agencies for formalisation, while the unofficial fee is extra out of pocket payments made at public agencies towards formalisation. Commuting cost has to do with cost of travel associated with formalisation and cost of time lag, the time value for money and reflects

the cost of capital. Professional fee refers to the fee charged by professionals for working on behalf of property owners to deal with parties and institutions involved in formalisation of title and ensuring that their clients' titles are formalised. Official and unofficial fees, as defined herein, is applicable to building permit acquisition cost (dependent variable), while the commuting cost, cost of time lag and professional fee are also applicable to both design and acquisition of building permit costs (dependent variables). Sub-division planning scheme cost is expenditure on preparation and approval of sub-division planning scheme.

Finally, the independent variables for infrastructure and amenities are the same as that of ULUP regime requirements compliance benefits outlined in Table 5.4. The only difference, however, is that the infrastructure and amenity costs did not consider costs on worship centre, school and convenience shop. This position was premised on the extant practice where such properties are not regarded as communally owned, but are for private individuals and institutions. As such, they must bear their cost.

5.7 Research Methods

The literature identifies several methods for data collection within the quantitative research paradigm. These basically include interviews using questionnaire instruments, extraction of existing data (archival data), which may or may not be pre-determined performance based data (Babbie, 1990; Creswell, 2003, 2009; Abudulai, 2010) and participant observation (see Hammond, 2006). Of course, as discussed elsewhere in this chapter, choice of any of these data collection methods is guided by the research problem and other practical peculiarities, such as time, logistical constraints and availability of existing data.

The entire survey took six (6) months; from May – November, 2011. However, in view of the afore-discussed peculiarities, questionnaire instruments and extraction of existing data were used to procure data for the research.

5.7.1 Questionnaire Instruments and Administration

Questionnaire instruments were used in the survey of property owners and professionals involved in the urban development processes. Table 5.5 gives a summary of these instruments (see also Appendices 1 – 5 for copies of the Questionnaire Instruments). Instrument number PO/2012 sought to obtain information on the socio-economic

characteristics of property owners and their compliance with ULUP regime requirements status. The instrument was categorised into three sections ‘A’ – ‘C’: Section ‘A’ contained questions on background of respondents such as gender, educational level, occupation and income, which was proxied on expenditure; Section ‘B’ was devoted to nature of land holding, number of bedrooms of respondents’ property, their awareness of the need to formalise titles to their properties and acquire building permit prior to development as well as their perception of relevance of ULUP. The remainder was on their compliance status regarding formalisation of titles to their properties and acquisition of building permit, when construction of the property began and when these requirements were satisfied where there was compliance; and Section ‘C’ requested for respondents’ comments, if any, on ULUP in Ghana and whether or not they wanted to receive copies of the findings from the research.

Instrument number PCC 1/2012 was targeted at real estate valuers, real estate/land agents and lawyers. It was to solicit information from respondents for assessment of formalisation of title to land cost in the study area. This instrument was categorised into three sections ‘A’ – ‘C’: Section ‘A’ had questions on background of respondents and solicited information, such as gender, profession, years of experience of respondents and experience in formalising title to lands in the study area as well as type of land holding usually dealt with; Section ‘B’ dwelt on the processes involved in formalisation of title to lands in the study area.

Table 5. 5 Survey Instruments used in the Study

Survey	Instrument Code	Remarks
1	PO/2012	Compliance with ULUP Requirements & Socio-Economic Characteristics of Property Owner
2	PCC 1/2012	Title Formalisation Cost
2a	PCC 2/2012	Architectural Design Cost
2b	PCC 3/2012	Building Permit Acquisition Cost
3	PCB 1/2012	ULUP Regime Requirement Compliance Benefit

It gathered information on duration for the processes, the follow up respondents, on average, make to expedite action on a process at a vendor of land premises and public sector institutions as part of the formalisation process. The remainder was usual charges for formalisation of title product and services such as deed cost and unofficial fees at public sector institutions, usual commuting time and cost per follow-up, waiting time per follow-up and professional fee usually charged for service delivery; and Section ‘C’

requested for comments of respondents on ULUP in Ghana, if any, and whether or not they will be interested to receive copies of the research findings. Instrument number PCC 2/2012 was earmarked only for real estate valuers and real estate officers/agents. Conversely, instrument number PCC 3/2012 was for real estate valuers, real estate officers, real estate agents, lawyers and architects/draughtsmen respectively. These two latter instruments were structured like PCC 1/2012 and sought information along its lines for the assessment of architectural design and acquisition of building permit costs.

Instrument number PCB 1/2012 was on ULUP regime requirement compliance benefits and targeted real estate valuers and agents. It also had three sections 'A' – 'C' and was designed as a repeated measure design instrument: Section 'A' solicited background information on respondents, such as gender, profession and years of professional experience; Section 'B' elicited benefits of ULUP regime requirements proxied on property values. Therefore, as a repeated measure design instrument (see Kerlinger and Lee, 2000; Field, 2005) the same respondents were asked first of all to give their professional opinion of value of a specified property (see Chapter 8) in the study area. Subsequently, they were asked to give their professional opinion of value if it is associated with a particular ULUP regime requirement to the exclusion of the other requirements. The same exercise was also done to elicit their opinion of value when the specified property is associated with all the requirements; and Section 'C', the last section, also requested for respondents comments if any on ULUP in Ghana and whether or not they will be interested in receiving copies of the findings from the research.

5.7.2 Administration of Questionnaire Instruments

5.7.2.1 Preliminary Activities

Owing to weak electronic and postal address system in the study site, illiteracy and language problems and the need to ensure adequate understanding of questions, to avoid validity problems, the researcher undertook a face-to-face administration of the instruments assisted by a team of research assistants. Prior to the commencement of the survey, a team of four research assistants were recruited and trained. These research assistants were BSc (Hons) Land Economy graduates who had just completed their post graduation national service with the Accra Office of the Ghana LC and aspire to become fully qualified real estate valuers and professionals in the built environment. Therefore, they were already familiar with the basic issues involved in urban development processes.

The researcher built on the above strength of the research assistants and explained to them the essence of the research, what each questionnaire was about, the meaning of terms in the questionnaire instruments and how the instruments ought to be administered, among others. For example, as of the time of the survey four public land sector agencies namely: the LC; LVB; SD; and the LTR had been merged into a new LC pursuant to the promulgation of a new Lands Commission Act (2008); (Act 767). These agencies had been turned into divisions called PVLMD, LVD, SMD and LRD of the new Commission. However, in practice the operations of these divisions were as before and undertook their operations in their same old premises. Besides, members of the public knew the agencies by their old names. Therefore, the questionnaire instruments and indeed, the entire research used the old names. This had to be clearly explained to the research assistants. Beyond the foregoing, a reconnaissance survey of Accra in general and Kwabenya community was undertaken with the team of research assistants. The reconnaissance survey was to partition Accra into zones, identify major geographical features, such as major routes and the main Kwabenya village so as to reach the target research population and enhance smooth administration of the instruments.

5.7.2.2 Instrument Administration

The administration of instruments for property owners and professionals involved in urban development processes were executed separately. While administration of instruments for property owners was solely concentrated in Kwabenya that of the professionals involved in urban development processes covered the whole of Accra and its environs. However, both were preceded with pretesting of the instruments. The pretesting of the instruments for the property owners pointed, *inter alia*, to the trend that significant number of prospective respondents may not have complied with ULUP regime requirements. Besides, those who may have complied did not remember critical information regarding the processes involved in compliance with the requirements because of effluxion of time in some cases or professionals facilitating such processes on their behalf in other cases. This confirmed findings from the literature of extensive non-compliance with planning regime requirements in SSA and the prior observation (in Section 5.4.5) of the inappropriateness of relying on property owners entirely for data in connection with the research. As such, the original instrument meant for property owners was revised prior to the main administration to exclude sections that originally sought to solicit information for the assessment of planning regime requirements compliance cost.

Similar such revisions were also done for the various instruments for the professionals involved in urban development processes based on findings from the pretesting of instruments.

5.7.2.3 Property Owners

Armed with information from the reconnaissance survey and the pretesting, and the need to observe reliability and validity standards, the main administration of instruments for property owners excluded the main Kwabenya village and the Regimanuel Gray gated communities (see Chapter 6). These areas were excluded because developments in the village were constructed long ago and prior to preparation of the planning scheme(s) for the community and also because owners of these developments were already known to have not complied with ULUP regime requirements. Similarly, developments within the Regimanuel Gray gated communities were known to have successfully gone through the requisite urban development processes and were covered by omnibus building permit. Therefore, those areas were not suitable for the research. Also, administration of the instruments was mainly executed during the weekends because those were the periods when respondents who were engaged in formal sector employment or work outside the community could be reached.

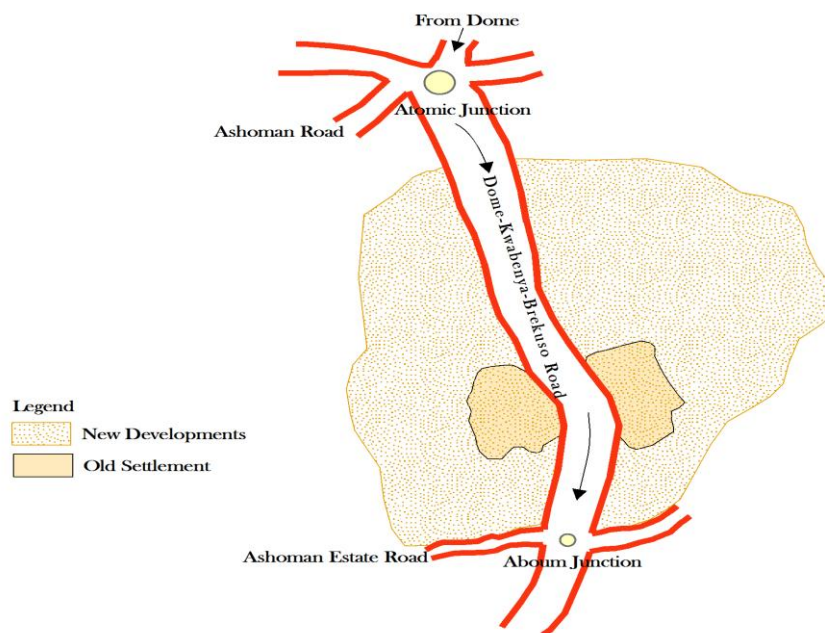


Figure 5. 5 Sketch Plan of the Layout of Kwabenya Community.

Source: Author's own construct

The research team was divided into two groups. Each group, in the main, comprised of two research assistants with the researcher switching in between the groups to ensure smooth instrument administration. The administration was done from two ends of the main Dome - Kwabenya - Brekuso artery Road, which divides Kwabenya. Group '1' commenced from the Dome end of the road at the Atomic Junction, while Group '2' started from the Brekuso end of the road at the Aboum Junction (see Figure 5.5). At these junctions, each group was again split into two with each research assistant taking one side of the road. From their starting points (Atomic and Aboum junctions) group members then used main branch roads along the main artery road as a guide to administer the instruments. At a main branch road, which usually had developments at both sides of the road, the first residential property on either side of the road was selected and the instrument administered upon availability of the owner.

From the first property, every third residential property on the same side of the road was then selected. However, in an event that an instrument could not be administered, for example, because of the non-availability of the owner or the property was not owner occupier, the next immediate property was selected. This property then became the reference point for the selection of the next property. This administration procedure continued until the end of the road and ushered in the administration for the other side of the road, which followed the same procedure until the main artery road was met once again from where the next main branch road was accessed.

The actual administration of the questionnaire instruments began with members of the research team introducing themselves to respondents, subsequent to which the purpose of their visit was outlined to them. Here reference was made to the research, what it sought to achieve and the benefits for respondents upon their participation in the research by making time to answer questions contained in the instrument. In addition, overview of structure of the instrument and questions supposed to be answered were outlined to respondents with an explanation that participation in the research was based on their own volition. As such, they had the right to decline participation at any point in time (see Section 5.9). Questions were then read and explained to them to provide responses upon acceptance to participate in the research, after which they were thanked for their time and co-operation. However, in situations where prospective respondents declined to participate in the research, member(s) of the research team thanked them and moved onto other respondents.

5.7.2.4 Professionals involved in Urban Development Processes

To minimise duplication of effort in the face of resource and time constraints, the questionnaires for all the four surveys for professionals involved in the urban development processes were administered concurrently. However, to also ensure that the target populations were reached, as much as possible, a combination of two approaches was adopted. Firstly, respondents were targeted at the offices of public sector institutions/agencies responsible for formalisation of title to land and acquisition of building permit. These public sector institutions were the LC, LVB, SD, LTR and GEMA. These locations were selected because they are places most of the respondents visit regularly to put in new applications for formalisation of title and building permits or expedite action on pending applications. Since the researcher together with the recruited research assistants were five, each of them was assigned to one of the public sector institutions to target the respondents.

The second approach partitioned Accra Metropolitan Area into four zones; Accra north, south, east and west. It was noted that GAMA consisted of eight administrative/political areas (see Figure 5.4). However, based on the information obtained from informants and the reconnaissance survey, it became evident that most of the respondents' offices were located in Accra Metropolitan Area. As such, using the 'Kwame Nkrumah Circle', a popular roundabout in Accra named after Ghana's first president, as a reference point the four zones were created. The areas to the north of the roundabout, which is along the 'Accra-Nsawam Road', were designated as Accra north. Those from the roundabout to 'Accra Central' were designated as Accra south while the areas from the roundabout towards the Odorkor community along the 'Kaneshie-Odorkor Mallam Highway' were labelled as Accra west. Finally, the areas from the roundabout to East Legon community, along the 'Circle -Tetteh Quarshie -Madina Road' were labelled Accra east. The creation of these zones was to ensure smooth administration of the questionnaire instruments as well as reach the respondents in a cost effective and timely manner. Each research assistant was assigned a zone while the researcher switched in between the zones to ensure smooth instrument administration.

The two approaches for the questionnaires' administration were used in turns on weekly basis. The actual questionnaire administration was executed based on insights from purposive, snowball and accidental sampling (see Section 5.5.2). So at the offices of the

public sector institutions, respondents were identified. Subsequently, an introduction and the purpose for the contact with them were made known. At this point the research, what it sought to achieve and the benefits they stood to gain upon their participation were communicated to them. They were told that participation was voluntary. Also, enquiry was made as to which of the surveys they had the experience to partake in after which their responses were solicited based on the questionnaires. That is, where there was an agreement to participate in the study. Finally, they were asked about other known respondents and their location, and then thanked for making time to participate in the study. Within the zones, areas where offices of the respondents were concentrated were targeted and respondents identified. The questionnaire administration followed the same procedure as those which were undertaken at the public sector institutions. The questionnaire administration was undertaken during normal working days of the week (Mondays to Fridays and from 8:00am to 5:00pm).

5.7.2 Extraction of Existing Data

Extraction of existing data was done in two different forms. The first one involved retrieving archival data from public and private sector institutions, as well as examining their records. Data obtained by this approach were legislations on statutory (official) fees for the processes involved in formalising titles to land and acquisition of building permits. These legislations included, for example, the Fees and Charges (Miscellaneous Provisions) Act (2009) (Act 793) and the Ga East Municipal Fee Fixing Resolution (2011). The remainder of the extracted data was planning standards, Government of Ghana approved consultancy rates and cost of capital, among others. The institutions, which were contacted for these archival data, included: the LC; LVB; SD; LTR; the GAR directorate of TCPD; the ULUP and Works Departments of GEMA; the LUMP Office; Ghana Institute of Planners, the BOG and Architectural and Engineering Services Limited. In addition, some of the records of these institutions, like the LC, LVB and the ULUP and Works Department of GEMA, were examined to actually ascertain whether, for example, official fees stated in applicable legislations were the ones being paid by property owners.

The second form of extraction of data entailed the presentation of a prototype subdivision planning scheme to infrastructural and social amenities agencies and based on their existing cost data and discussions with the researcher arrived at a unit cost rate for

their products. This approach was adopted because infrastructural and social amenities projects are capital intensive projects, which are undertaken by or under supervision of such agencies, but not on the individual property owner level. Therefore, this meant that it was not feasible to obtain such information through questionnaire, like the one to property owners. Responsible institutions, which were contacted in this regard, were TCPD, DUR, DPG, ECG, VGL and GWCL.

5.8 Data Analyses

To obtain an answer to the research question and authenticate the central argument of the research, there is a need to explain and find meaning to the collected data. It is, however, difficult or impossible to explain raw data; they need to be analysed prior to interpretation. This means that the data needs to be categorised, ordered, manipulated and summarised into intelligible and interpretable form in order to study the relationship between the research variables, test the central argument and address the research question (see Kerlinger and Lee, 2000: p191 and 192).

Analysis of the research data took several levels with several analytical tools. With regards to the survey data, responses from respondents were first checked to ascertain consistency and to rectify anomalies. Subsequently, the responses were coded and entered into a data analysis programme – Statistical Package for Social Sciences (Version 16). At this stage too, the data was explored, screened and cleaned. Further to this, descriptive statistical analysis was run on the data. It needs to be pointed out that for the nominal and categorical data, the descriptive statistics was, in the main, limited to frequency distribution. This implies that analysis of data from survey of property owners at the descriptive statistical analysis level predominantly examined the frequency distribution of responses on the research variables.

Building on the frequency distribution, the analysis proceeded to examine the relationship between the variables through cross tabulation of the dependent and independent variables. This was then followed with a chi-square test of the difference in prevalence of dependent variables among the independent variable groups. Finally, the relationship between the dependent and independent variables was examined with the inferential statistical model developed at (Section 4.3.1) in chapter four; the logistic regression model. Both the chi-square test and logistic regression measurements were

based on levels of significance, which is usually less than or equal to 5% (.05) in social science.

The data procured from the survey of professionals involved in the urban development processes was mainly interval (continuous) data. As such, at the descriptive statistics level the mean, median, mode and standard deviation, among others were all examined. Further to that the distributions of the responses were checked to ascertain their normality by carrying out normality test with Kolmogorov-Smirnov's test and homogeneity of their variance test with Levene's test to determine direction for subsequent levels of analysis. Based on the outcome of these tests, Mann-Whitney and Kruskal Wallis tests were undertaken on the ULUP regime requirement compliance cost data generated from the survey of professionals involved in the urban development processes. Both Mann-Whitney and Kruskal Wallis tests are non-parametric tests. However, Mann-Whitney test is invoked when differences in two situations and different participants are to be tested. It is the equivalent of the independent *t*-test (Field, 2005). It works by ranking actual data generated from a survey and carrying-out the analysis on the ranked data instead of the actual data. The Kruskal Wallis test also work along similar lines, but under this arrangement independent participants or groups are usually several. It is the equivalent of the one-way independent ANOVA (Field, 2005). The cost data on the variables obtained at this stage was then transported to Microsoft Excel for further analysis using the operationalisation procedure(s) in (Chapter 4) to calibrate the cost of the subject ULUP regime requirements compliance cost.

For the ULUP regime requirements compliance benefit, both the OLS model developed as Equation 4.17 and the difference in means model developed as Equation 4.19 in chapter four were activated. The difference in mean model was tested with the paired sample *t*-test. Independent *t*-test was also carried-out on the values solicited with respect to the two professionals groups used in the relevant survey. All the tests were assessed based on levels of significance per standards in the social science mentioned earlier. However, it needs to be pointed out that the regression was re-run on Stata (Version 11) to enable the standard errors to be clustered, since the standard errors were biased due to the research design (see Field, 2005; Petersen, 2008; Cheah, 2009).

With regard to the data procured from relevant institutions on cost of sub-division planning schemes and infrastructure and social amenities, they were assessed with

Microsoft Excel based on their relevant models in chapter four to determine their cost. Subsequently, all the cost for the cost variables and all the benefits from the benefit variables were summed up independently and compared to address the central argument of the research as well as the research question.

5.9 Ethical Issues in Research

There is no doubt that the idea of research is to, among others, test theories, make inferences and add or updates knowledge (Nachmais and Nachmais, 1996; Kerlinger and Lee, 2000). However, in undertaking research, researchers must be guided by some form of ethics (Shrader-Frechette, 1994). Shrader-Frechette (1994) asserts that research ethics specifies conduct that researchers ought to demonstrate during an entire process of research. This conduct and its related issues over the last three decades or more have attracted attention, so much that they are being addressed as integral part of research proposals (Creswell, 2003, 2009). In fact, according to Kerlinger and Lee (2000), prior to the 1960s and 70s researchers from all fields were left to their own consciences as regards research ethics, even though some scientists were caught and punished for experimenting on human beings without consent before the twentieth century. However, with evidence of research fraud and deception of research participants in the 1960s and 70s demand for rules for researchers, conduct became imminent.

This upsurge in attention on research ethics, therefore, has stemmed from a number of factors. These include: the need for researchers to protect participants from legalities and threats, such as dismissals; establish a trustworthy relationship with them; and protect the integrity of their institutions and organisations, among others (Isreal and Hay, 2006, in Creswell, 2009). Given the foregoing, a number of organisations and institutions have developed standards and guidelines for research ethics.

The University of Wolverhampton, as an institution of higher learning and research, has also developed ethical standards and measures to ensure that appropriate ethical standards are upheld in research. Therefore, the present research was, first of all, subjected to the ethical processes and standards of the University, to obtain the approval of its Ethics Committee. Beyond that, the requisite permission of all the participating institutions was sought. The research also ensured that the rights of participants, their values and needs were upheld. This was done through disclosures to participants regarding purpose of the study, those who were involved and how findings were to be

disseminated. Further, participants were given prior information that participation in the study was at their own volition and had the right to walk out of the study at any time. In the same vein, they were assured of anonymity and confidentiality through, for example, not disclosing their names in the research reports. Regarding the public sector institutions, since there was the likelihood of stumbling on confidential materials from extraction and examination of their records, highest level of discretion was maintained to safeguard them against leakages to the public particularly the local press.

5.10 Chapter Summary

In the lead up to this chapter the measuring framework for the research was outlined based on extant methodologies and insights from the conceptual framework. In activating the measuring framework, there was a need to display how the research was planned and designed to procure requisite data to feed the framework towards addressing the central argument of the research and the research question. This chapter, therefore, discussed the research methodology for the study. It examined the various philosophical realms, within which social science inquiry is undertaken, and adopted the appropriate philosophical realm for the study based on the research issue in question and the prevailing practical exigencies in the geographical limit of the study. It further looked at the practical technique, population and sampling issues relevant to the study, methods used for data collection, procedure for analysis and the analytical tools adopted and, finally, reported on measures utilised to ensure high research ethical standard. Having discussed the research methodology for the study, the thesis now proceeds to outline results from the research and their related discussions.

Chapter Six

Results, Analyses and Discussion: Part One

6.1 Introduction

Pursuant to the exposition in the preceding chapter of how the research was designed and data procured and analysed to feed the operationalisation framework, it is now appropriate to report on the results from the survey(s). This chapter presents the first part of the survey results, its analyses and discussions. It focuses on the relationship between socio-economic characteristics of property owners and their compliance with ULUP regime requirements. The chapter commences with a discussion on the profile of the study area and then discusses numerical tendencies of the socio-economic characteristics of the sample. The numerical tendencies of compliance status of the sample are also examined at this stage subsequent to which relationships are tracked based on insights from chapters two and three.

Even though ULUP regime requirement(s) was proxied on acquisition of building permit, both formalisation of title to land and acquisition of building permit requirements were examined in the light of these predictor variables. The chapter also examined the association of compliance with these two ULUP regime requirements and other predictor variables, such as educational level and occupation of respondents. In essence, this chapter executes equation 4.10; $\text{Log}[P(x)/1 - P(x)] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n + \varepsilon$ developed in (Section 4.3.1) of chapter four and set the tone for discussions in subsequent chapters.

6.2 Profile of the Study Area

As pointed out in chapter five, the reference community for the research was Kwabenya. Its location, and political and administrative jurisdiction; the Ga East Municipal Area is also stated in that chapter. The Ga East Municipality was forerun by Ga East District, which was created in 2004 by virtue of Ghana's (LI 1749). However, prior to the creation of the Ga East District and its metamorphosis into Ga East Municipality, Kwabenya community was under the then Ga District which was made up of the current Ga South, Ga East, Ga West and Adenta municipalities.

Kwabanya community used to be a small rural farming community, which was clustered around its present day main vehicular terminal. Indeed, Kwabanya, as of the 1980s, was classified as semi-urban (GSS, 1984). However, the community has seen growth and expansion over the years. Therefore, it has now become part of Accra as an urban area. According to Ghana's 2000 population and housing census (see GSS, 2000), the population of Kwabanya as of 2000 was 3,862. This consisted of 2,033 males and 1,829 females. People with tertiary level of education were 113 compared to 672 who had no formal education. 544 of the population were engaged in formal sector employment out of 2,110 people who were in employment. The rest were engaged mainly in informal economic activities.

Over the last decade, Kwabanya has seen massive growth and expansion to integrate with adjoining communities, such as Pokuase on the north, Musuku and Ashoman on the south, and Dome on the west. The community also continues to grow towards Brekuso on the north-east and east. This massive growth and expansion is in tandem with observation by Songsoore (2004) and Owusu (2008) that Accra's urban growth and expansion is occurring at the periphery. The community has undulating topography and is covered by 3 different planning schemes; North Dome Residential Area planning scheme (TCPD/N/Dom/88/1) prepared in 1988, New Ashoman Residential Area Sector Two Planning Scheme (TCPD/GA/Ashoman/97/1) prepared in 1997, and West Ashoman Planning Scheme number (TCPD/GD/WA/2000) prepared in 2000. The North Dome Residential Area Planning Scheme comparatively covers a large section of the community.

With the exception of the indigenous settlement, developments in the community mainly began in the 1980s. Residential land use dominates land utilisation in the area. These are interspersed with commercial land uses, such as shops and pubs especially for developments along the main Dome - Kwabanya - Brekuso Road that divides Kwabanya. The residential developments are mainly 3-4-bedroom detached sandcrete block properties. Two gated communities constructed by Regimanuel Gray Company Limited, a real estate development company are also located in the community. These gated communities referred to as Kwabanya Housing Estate and Baloon Gate Estate are about 1km to the south west of the indigenous Kwabanya community. The gated communities comprise of detached and semi-detached 2 & 3-bedroom estate type residential houses as well as 4-bedroom executive houses. The Baloon Gate Estate additionally has multi-storey block of flats.

The community is connected to infrastructural facilities, such as electricity, water and telephone facilities from the public mains. However, such facilities are yet to be connected to areas of the communities, towards Pokuase and Brekuso on the north and the north-east. Even in the main community where these facilities are available, water supply is not regular and many properties are not connected to fixed line telephones. Ancillary land uses, such as schools are few while others like community park(s) are non-existent partly due to encroachments². Similarly, road networks within the community are in poor condition. With the exception of the Dome-Kabenya- Brekuso Road, which is tarred, all the remaining community roads are not tarred.

Records at Ghana's Lands Commission indicate that land ownership within Kwabenya and its environs are mainly family lands belonging to families, such as Nii Odai Ntow, Onamrokor Adain, and Evans and Peter Mensah Anteh Families. Family lands come under private lands in a broad classification of land ownership in Ghana as public and private (Abdulai, 2010). Public lands are lands whose ownership is vested in the state (Republic of Ghana) while private lands are customary lands whose ownership are vested in communities represented by stools/skins and families/clans (see 1992 Fourth Republican Constitution of Ghana).

Within public lands there is specie of land known as vested lands, which fall in between public and customary lands (Abdulai, 2010). This specie of land is associated with duality of ownership; legal and equitable. The legal ownership is vested in the state while the equitable ownership is vested in stools/skins and families/clans. There is also another strand of land within the customary land ownership grouping known as private individual lands (see Oduro, 2010). Private individual lands are lands, which have their ownership vested in private individuals. Consequently, Oduro (2010) classifies land in Ghana into state, vested, stool/skin, family/clan and individual lands. However, several hierarchies of interests or ownerships, such as allodial, the highest interest in land in Ghana, estate of freehold, customary freehold, leasehold and tenancies (see Ollenu, 1962; Abdulai, 2010; Oduro, 2010) exist in these lands. This research is, however, oriented to family lands in terms of land ownership.

²Records at the TCPD of the GEMA indicate that the planning schemes for the Kwabenya community have not been fully complied with areas earmarked for ancillary land uses such as schools, and roads suffering the worst violations.

6.3 Socio-Economic Characteristics of Sample

The socio-economic attributes of the sample are outlined as follows:

6.3.1 Gender of Respondents

The male respondents constituted 69% of the sample compared to 31% who were females. This revelation is not surprising and perhaps better considering the global marginalised women land ownership situation (Seager, 1997). In SSA, the literature is replete of studies on the situation (see Gray and Kevane, 1999; Yngstrom, 2002; Whitehead, 2003). Gray and Kevane (1999 p16) in their introduction to a treatise on women and land tenure in SSA, for example, observed that:

“The story begins by placing women not as “owners of land” but rather as “owners of crops”. Women generally have rights to cultivate land as well as rights to control income from the resulting crop production. Their rights for the most stop there; women rarely have rights to allocate or alienate land. Women’s rights to use land are associated furthermore with their position in relation to men – as mothers, wives, sisters, and daughters. More important, when land becomes scarce or rises in value, or when rights are formalised through titles or registration, these rights to use land are revealed to be secondary and tenuous. The right to receive turns out rarely to be as compelling as the right to give. Men use their position of dominance to “expropriate” women’s rights to land.”

It is suggested that the above observation has worsened following World Bank motivated land tenure reforms since the 1980s, which sought to individualise land ownership to promote economic prosperity in the sub-region (see Bruce and Migot-Adholla, 1994; Yngstrom, 2002; Whitehead and Tsikata, 2003; Joirman, 2008). Even though the situation may not be so for all communities in Ghana as demonstrated by Quisumbing *et al.* (1999), majority of the literature points to women low level of land and property ownership (see Minkah Premo and Dowuona-Hammond, 2004; Bugri, 2008). This appears to support criticisms of on-going World Bank motivated land reform programmes in SSA by women land rights activists (see Whitehead and Tsikata, 2003). Indeed, in Ghana such critique groups like the Network for Women Rights (NETRIGHT) and Ark Foundation have led to incorporation of a gender component in

the current land tenure reforms under LAP. It, however, remains to be seen whether this can ensure any material change.

6.3.2 Education and Occupation of Respondents

Table 6.1 summarises educational level of respondents. Majority; 34% of the respondents had received tertiary level of education compared to 2% who had no formal education and 4% who had only primary education (Table 6.1). The remainder was 11%, 22% and 27% who had attained JSS/elementary, post-secondary and secondary/technical/vocational levels of education respectively.

Table 6. 1 Education Level of Respondents (n = 100)

	Frequency	%	Valid %	Cumulative %
Valid None	2	2.0	2.0	2.0
Primary	4	4.0	4.0	6.0
JSS/Elementary	11	11.0	11.0	17.0
Secondary/technical/vocational	27	27.0	27.0	44.0
Post Secondary	22	22.0	22.0	66.0
Tertiary	34	34.0	34.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

Table 6. 2 Occupation of Respondents (n = 100)

	Frequency	%	Valid %	Cumulative %
Valid Formal	60	60.0	60.0	60.0
Informal	40	40.0	40.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

Occupation of respondents was categorised into formal and informal (see Chapter 5 for definition). 60% of the respondents were engaged in formal sector employment compared to 40% who were in informal sector employment (see Table 6.2). With the literature being replete of the informal sector being the largest employment avenue for majority of the people in the developing world; sometimes estimated at 80% (see Watson, 2009a; UN-Habitat, 2009a; Brown, 2012) one would have expected that the number of respondents engaged in the informal sector employment will far exceed their counterparts in the formal sector. This should have even been more expectant given the argument that due to high prices of municipal services and threat of ejection from the city centre by city authorities for non-compliance with regulation, most urban dwellers relocate to the country side where land is cheap (see Songsore, 2004; Cohen, 2006 UN-Habitat, 2009a). Conversely, the results do not seem to suggest that. Even so, these results again must be interpreted carefully and within context.

To begin with, it would appear that the focus of relevant studies on the preceding issue is on poor urban slum dwellers in developing countries that do not own property and are mostly engaged in informal economic activities. However, in the present study respondents in general cannot be said to be poor given their property ownership status. Besides, in Accra the issue of ejection of unauthorised developers has often been looked at with a political lens. Therefore, it has always been difficult to implement such ejections and thus, creating serious headaches for urban land use planners. The planned relocation of, for example, slum dwellers at Sodom and Gomorrah, the biggest slum settlement in the heart of Accra and the small scale scrap dealers at Kokompe to Adjen Kotoku and Anyaa, respectively in the countryside over the years is yet to materialise.

Again, the situation in Kwabenya like most of the transitional fringe areas of Accra is not one of the poor taking over the lands because they are cheap. Rather, it reflects inordinate demand for land for housing development with poor subsistence tenant farmers being priced out (see Owusu, 2008; Oduro, 2010). From land use and economics standpoint, the situation in the study area in relation to Accra can be said to bear semblance to Burgess (1925) concentric circle growth theory though many other emerging developments in the city defy such mono-centric approach to city growth. That notwithstanding, the literature acknowledges that the growth of Accra has been in concentric circles (Accra Strategic Plan, 1991, 1993; UN-Habitat, 2009b) and communities, such as the study area on the fringes of the city serve as “dormitory” towns for both salaried and waged workers in the city. This implies that, these fringe areas are

more like the commuters' zone described by Burgess (1925). In concluding this discussion, however, it is imperative to state that having 40% of informal sector employees owning properties require deep reflection on, and accommodation of, the sector by planning policies. This is because it is a manifestation of the potential of the sector which could be harnessed for socio-economic development contrary to it being always associated with poverty.

6.3.3 Income, Nature of Land and Property of Respondents

The survey captured respondents' monthly income by proxying them on their monthly expenditure. This approach was premised on the notion that disclosing one's income in Ghana is a very delicate issue. Besides, most people earn income from several sources. Therefore, there is always the tendency for people to only disclose their main income. It is in this vein that the GSS often adopt this approach for substantial number of income-based analysis (see GSS, 2008). 60% response rate was achieved regarding income status of respondents. The monthly expenditure, on average, generated was in the range of GH¢370.00 and GH¢4,878.00. The mean monthly expenditure, on average, was GH¢1,461.00.

In USA Dollar (\$) terms, at a rate of (GH¢1.5 = \$1.00, see Chapter 7), on average the mean monthly average expenditure of respondents was \$970.00 compared to the overall average household expenditure in Ghana as at 2006, which was \$173.73 (GSS, 2008). The disparity between the two figures; \$796.27 is substantially high. Even using median of the average monthly expenditure figures reported by respondents because responses were not normally distributed, which was comparatively low; \$813.3, the difference; \$639.57, is still very substantial. Again, comparing the average mean and median monthly expenditures of respondents to overall average monthly income of households in Ghana as at 2006; \$110.58 (see GSS, 2008), even reveals far higher disparities of \$859.42 for the mean figure, and \$639.57 for the median figure.

The disparities reflect respondents' high level of expenditure. A number of possible reasons for this can be inferred. First of all, the national averages of household expenditure and incomes were based on 2006 figures, which also encompass all households both rich and poor throughout the country. Furthermore, the exchange rate as at 2006 was (GH¢0.92 = \$1.00) (GSS, 2008) meaning the Ghana Cedi over the years has depreciated. As such, comparatively more is required to purchase the same basket of goods and services it purchased in 2006. In addition, the cost of living in Accra is high compared to other areas in the country and, therefore, could account for the high

expenditure levels among respondents. What ever it is, this result manifests the challenge to managers of the Ghanaian economy. It also manifests the challenge to ULUP policy makers and implementers since apart from food, which accounts for 30% of household expenditure, the next highest levels of expenditure are on ULUP factors, such as transportation (16.7%), housing, water, electricity and gas (7.9%) and recreation and culture (6.1%) (GSS, 2008).

Regarding nature of respondents' property, 87% of respondents indicated that their lands were family lands compared to 13% of them whose lands were private individual lands. These results confirm the nature of landholding in the study area reported in section 6.2. The results from the survey also reflected the type of residential properties in the study area; 3-4 bedroom houses. Table 6.3 shows that cumulatively, 63% of respondents' properties were 3 and 4-bedrooms developments with 3-bedroom type being slightly more; (1%) than the 4-bedroom type.

Table 6. 3 Nature of Respondents' Properties (n = 100)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 2 bedroom single storey	20	20.0	20.0	20.0
3 bedroom single storey	32	32.0	32.0	52.0
4 bedroom single storey	31	31.0	31.0	83.0
other	17	17.0	17.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

6.3.4 Awareness and Relevance of Title Formalisation

Majority; 56% of the respondents were aware of the requirement to formalise titles to their properties compared to 44% of them who were not aware (Table 6.4). Overwhelming majority; 87% of the respondents even perceived title formalisation as relevant relative to 13% of them who did not perceive it as relevant (Table 6.5).

Table 6. 4 Awareness of Respondents on Title Formalisation Requirement (n = 100)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	56	56.0	56.0	56.0
No	44	44.0	44.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

Table 6. 5 Relevance of Formalisation of Title to Land/Property (n 100)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	87	87.0	87.0	87.0
No	13	13.0	13.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

As to the question of why title formalisation was relevant, 82.3% of those who perceived formalisation of title as relevant indicated that formalisation assists in prevention of future disputes over land and property ownership. Findings from the external validation also supported the high level of awareness of the requirement, and relevance of title formalisation. The planning and urban development experts interviewed indicated that though people may not be aware of the full details of the requirement, significant number of urban dwellers especially in Accra, are aware of the requirement. Besides, the relevance of title formalisation continues to appreciate due to rife in conflict over land and property. These together with the main findings reinforce the perception of title formalisation as one of the two ways of validating security of ownership (Abdulai, 2006; Toulmin, 2008). However, these results controvert the assertion that there is a general lack of awareness of the title formalisation requirement, and relevance for title formalisation on the part of property owners (GoG, 2003).

6.3.5 Awareness of Acquisition of Building Permit and Relevance of ULUP

Tables 6.6 and 6.7 show responses on awareness of respondents to obtain building permit prior to development and their perception of relevance of ULUP as practiced in Ghana.

Table 6. 6 Awareness of Respondent to Obtain Building Permit (n = 100)

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	78	78.0	78.0	78.0
No	22	22.0	22.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

78% of the respondents were aware of the requirement to obtain building permit before development relative to 22% of them who were not aware. Conversely, 63% of the respondents did not perceive ULUP as practiced in Ghana as relevant compared to 37% of them who perceived it as relevant. Furthermore, like the title formalisation requirement, the experts used for the external validation (see Section 5.4.1) reported that a lot of developers particularly in Accra are aware of the acquisition of the building permit requirement.

Table 6. 7 Respondents Perception of Relevance of ULUP in Ghana (n = 100)

Relevance	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	37	37.0	37.0	37.0
No	63	63.0	63.0	100.0
Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

There was, however, mixed outcomes on relevance of ULUP as being practiced in Ghana. While three of the experts reported (see Section 5.4.1) that the whole ULUP regime in the country appears to have outlived its usefulness, two of them opined that it is still relevant, but perhaps certain areas of the ULUP regime need to be re-examined. For example, they questioned why proof of title to land should be a requirement for procurement of building permit.

While the result on awareness contradicts the literature suggesting that majority of the people in SSA are not aware of ULUP regulations, it reinforces findings from studies, such as Boamah *et al.* (2012) in northern Ghana, and Arimah and Adeagbo (2000) which

observed that awareness of ULUP regulations in Ibadan, Nigeria is very high. The possible reason for mixed outcomes in the literature on awareness of ULUP regulations could be as a result of the focus of relevant studies on different regulations. For example, while the focus of Boamah *et al.* (2012) was on requirement for building permit that of Arimah and Adeagbo (2000) was on building setback. However, the findings on relevance of planning in Ghana both from the main and the external validation to a large extent support the observation in the literature that the practice of ULUP in SSA does not respond to the socio-economic needs of majority of people in the sub-region (Chapter 3).

6.4 Compliance with ULUP Regime Requirements

Tables 6.8 and 6.9 outline responses on compliance and nature of compliance with title formalisation requirement respectively. Tables 6.10 and 6.11 also show responses on compliance and nature of compliance with building permit requirement in that order.

Table 6. 8 Formalisation Status of Respondents Property (n = 100)

Compliance		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	35	35.0	35.0	35.0
	No	65	65.0	65.0	100.0
	Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

The respondents who had complied with the title formalisation requirement constituted 35% of the sample compared to 65% who had not complied (Table 6.8). Even out of the 35%, only 8.6% (n = 3) complied with it prior to construction. The remaining 91.4% (n = 32) complied with the requirement subsequent to commencement of their developments (Table 6.10). This means only 3% of respondents complied with title formalisation requirement in strict terms. This supports the literature on low rate of title formalisation in Ghana, which is estimated at 5%, and in SSA generally. Indeed, the rate for SSA is estimated at 15-20% (Fourie, 1998) and that of West Africa is between 2-3% (Toulmin, 2008).

Table 6. 9 Nature of Respondents' Compliance with Title Formalisation Requirement (n = 100)

Compliance		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Compliance prior to development	3	8.6	8.6	8.6
	Compliance subsequent to development	32	91.4	91.4	100.0
	Total	35	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

With regard to building permit requirement, 31% of the respondents had complied with the requirement compared to 69% who had not complied (Table 6.10). Examining the results further, it was established that only 23.3% (n = 7) of the valid percent of respondents who had complied with the requirement did so prior to commencement of their developments compared to 76.7% (n = 23) of the valid percent of respondents who did so subsequent to commencement of their developments (Table 6.11). Technically, therefore, about 93% of the sample did not comply with the building permit requirement.

Table 6. 10 Building Permit Status of Respondents Property (n = 100)

Compliance		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	31	31.0	31.0	31.0
	No	69	69.0	69.0	100.0
	Total	100	100.0	100.0	

Source: Author's Field Survey – May – November, 2011

What is even more intriguing is that a synthesis of the data on compliance with title formalisation requirement prior and subsequent to development with that of acquisition of building permit prior and subsequent to development reveals an anomaly. Three of the respondents who had formalised their titles prior to development were part of the seven respondents who acquired building permit prior to development. However, from the literature discussion in (Chapter 3), it became evident that title formalisation is a pre-requisite for building permit acquisition. Therefore, for seven respondents to obtain building permit prior to development means four of them must have side stepped

procedure or breached the requirement. This again mirrors the weakness of ULUP institutions in Ghana and across the SSA (Section 2.4). The findings also reinforce studies, such as Larbi (1996), Arimah and Adeagbo (2000), Payne and Majale (2004) and Rakodi (2006b), among others on the massive non-compliance with planning regulations in the sub-region.

Table 6. 11 Nature of Compliance with Acquisition of Building Permit Requirement (n = 100)

Compliance		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Compliance prior to development	7	22.6	23.3	23.3
	Compliance subsequent to development	23	74.2	76.7	100.0
	Total	30	96.8	100.0	
Missing	System	1	3.2		
	Total	31	100.0		

Source: Author's Field Survey – May – November, 2011

Findings from the external validation also reinforce low compliance with planning requirements in the case study country. Indeed, there was a consensus among the five planning and urban development experts interviewed in support of the research findings that there is a general disregard for planning regulations in urban areas in Ghana. One of the experts observed that:

“In Accra, for example, the trend is that, developments continue to occur without sub-division planning schemes. Planning continues to chase developments in our part of the world. Majority of the people who comply with building permit do so after development of their buildings. Even in areas where there seem to be sanity like prime government residential areas of Airport, Cantonments and East Legon, massive land use conversion without requisite permission of planning authorities are being witnessed. As for registration of land, the least said about it the better. Even though a visit to public land sector institutions reveals a lot of activities taking place, the real situation is that majority of land and property owners have simply not registered their titles.”

6.5 Sample Characteristics and ULUP Requirements Compliance

In establishing the relationship between property owners' socio-economic characteristics and their compliance with ULUP regime requirement(s), a cross tabulation of the dependent variable(s) (outcome) and independent variables (predictors) was initially undertaken. The results are outlined and discussed as follows:

6.5.1 Formalisation of Title Requirement and the Independent Variables

Formalisation of Title Requirement and Gender

39.1% (n = 27) of the male respondents had complied with the title formalisation requirement compared to 25.8% (n = 8) of the female respondents. The male compliant respondents constituted 77.1% of the compliant respondents and 27% of the sample relative to 22.9% and 8%, respectively, for their female counterparts. Conversely, 60.9% (n = 42) of the male respondents had not complied with the requirement relative to 74.2% (n = 23) of the female respondents. Thus, 64.6% of the non-compliant respondents were males who also constituted 42% of the sample. The female non-compliant respondents also accounted for 35.4% of the non-compliant respondents and 23% of the sample. The chi-square for the difference between the male compliant respondents and the female compliant respondents, and that of male non-compliant respondents and female non-compliant respondents was not statistically significant at 5% ($X^2=1.669$, $p=0.196$ $n = 100$). This means that there is enough justification for the rejection of the alternative hypothesis, which states that there is a statistically significant difference between the afore-mentioned groups. This also implies the difference between the two groups in terms of compliance and non-compliance with the title formalisation requirement is not more than what could have happened by chance.

Formalisation of Title Requirement and Education Level

Educational level of respondents was examined from tertiary level education and below tertiary level education viewpoints (Chapters 4 & 5). 52% (n = 18) of the respondents who had received tertiary level of education compared to 25.8% (n = 17) of the below tertiary level educated respondents had complied with the requirement. The compliant tertiary level educated respondents constituted 51.4% and 18% of the compliant respondents and the sample respectively. The compliant below tertiary level educated respondents accounted for 48.6% of the compliant respondents and 17% of the sample.

However, 47.1% ($n = 16$) of the tertiary level educated respondents as against 74.2% ($n = 49$) of the below tertiary level educated respondents had not complied with the requirement. The tertiary level educated non-compliant respondents constituted 24.6% of the non-compliant respondents and 16% of the sample while that of non-compliant below tertiary level educated respondents accounted for 75.4% of the non-compliant respondents and 49% of the sample. The chi-square for the difference between tertiary level educated compliant respondents and below tertiary level educated compliant respondents, and that of tertiary level educated non-compliant respondents and below tertiary level educated non-compliant respondents was statistically significant at 5% ($\chi^2=7.289, p=0.007, n = 100$). This means that significantly more of tertiary level educated respondents complied with title formalisation requirement compared to below tertiary level educated respondents. Again, it also signifies that significantly more of the below tertiary level educated respondents did not comply with the title formalisation requirement relative to tertiary level educated respondents.

Formalisation of Title Requirement and Occupation

50% ($n = 30$) of the respondents engaged in formal sector employment compared to 12.5% ($n = 5$) of the respondents engaged in informal sector employment had complied with title formalisation requirement. 85.7% of the compliant respondents were, thus, engaged in formal sector employment. These respondents also constituted 30% of the sample. The compliant respondents engaged in informal sector employment in contrast accounted for 14.3% of the compliant respondents and 5% of the sample. 50% ($n = 30$) of respondents engaged in formal sector employment compared to 87.5% ($n = 35$) of those engaged in the informal sector employment, conversely, had not complied with the requirement. The non-compliant respondents engaged in formal sector employment constituted 46.2% of the non-compliant respondents and 30% of the sample. The non-compliant respondents who were engaged in informal sector employment also constituted 53.8% of the non-compliant respondents and 35% of the sample.

The chi-square for the difference between the compliant respondents engaged in formal and informal employment, and that of the non-compliant respondents engaged in formal and informal employment was statistically significant at ($\chi^2=14.835, p<0.001, n = 100$). This result provides a basis for the rejection of the null hypothesis, which states that there is no statistically significant difference between the groups in terms of compliance and non-compliance with the requirement. More importantly, the result signifies that substantially more of the respondents engaged in formal sector employment complied

with the title formalisation requirement compared to those engaged in informal sector employment. It also indicates that substantially more of the respondents engaged in informal sector employment did not comply with the title formalisation requirement relative to their counterparts in the formal sector.

Formalisation of Title Requirement and Awareness

48.2% (n = 27) of the respondents who were aware of the title formalisation requirement relative to 18.2% (n = 8) of the respondents who were unaware had complied with the requirement. The compliant respondents who were aware of the requirement constituted 77.1% of the compliant respondents and 27% of the sample while the compliant respondents who were unaware of the requirement accounted for 22.9% of the compliant respondents and 8% of the sample. Also, 51.8% (n = 29) of the respondents who were aware of the requirement compared to 81.8% (n = 36) of the respondents who were unaware of the requirement had not complied with the requirement. Thus, while the respondents who were aware of the requirement, but had not complied constituted 44.6% of the non-compliant respondents and 29% of the sample, those who were unaware and had not complied with the requirement accounted for 55.4% of the non-compliant respondents and 36% of the sample.

The chi-square of the difference between the compliant respondents who were aware of title formalisation requirement and compliant respondents who were unaware of it, and non-compliant respondents who were aware of the requirement and non-compliant respondents who were unaware was statistically significant at 5% ($X^2=9.769$, $p=0.002$ $n = 100$). This means that the null hypothesis, which states that there is no statistically significant difference between the groups, should be rejected. This further suggests that significantly more of the respondents who were aware of the title formalisation requirement complied with the requirement compared to those who were not aware of the requirement. Similarly, significantly more of respondents who were unaware of the requirement had not complied with it.

Formalisation of Title Requirement and Relevance

All the 35 respondents who complied with the title formalisation requirement perceived title formalisation as relevant. This constituted 40.2% of the respondents who perceived title formalisation as relevant and 35% of the sample. This means that there was no respondent who perceived formalisation of title as not relevant yet complied with the requirement. 59.8% (n = 52) of the respondents who perceived title formalisation as

relevant as against 100% ($n = 13$) of the respondents who perceived title formalisation as not relevant had not complied with it. The respondents who perceived title formalisation as relevant, but had not complied with the title formalisation requirement constituted 80% of the non-compliant respondents and 52% of the sample. The respondents who perceived title formalisation as not relevant and had not complied with the title formalization requirement also accounted for 20% of the non-compliant respondents.

The chi-square for the difference between the respondents who perceived title formalisation as relevant and complied with the title formalisation requirement and those who perceived it as not relevant and complied with the requirement, and the non-compliant respondents who perceived title formalisation as relevant and the non-compliant respondents who perceived it as not relevant was statistically significant at 5% ($X^2=8.046, p=0.005, n = 100$). This means the null hypothesis, which suggests that there is no statistically significant difference between the groups under reference should be rejected. In practical terms, however, the result implies that substantially more respondents who perceived title formalisation as relevant in proportionate terms complied with the title formalisation requirement relative to those who perceived title formalisation as not relevant. What is, however, intriguing is that more of the respondents who perceived title formalisation as relevant also had not complied with the requirement.

Formalisation of Title Requirement and Awareness and Relevance

53% ($n = 53$) of the sample were aware of the title formalisation requirement and perceived title formalisation as relevant. However, 50.9% ($n = 27$) of them had complied with the requirement compared to 49.1% ($n = 26$) who had not complied with the requirement. The 50.9% of the respondents who were aware of the requirement, perceived formalisation as relevant and had complied constituted 77.1% of compliant respondents while the same category of respondents (49.1%) who had not complied with the requirement accounted for 40% of the non-compliant respondents. This suggests that most of the respondents who had complied with title formalisation requirement were aware of the requirement and perceived title formalisation as relevant.

In summing up discussion on this section, it can be surmised from the cross tabulation results that, majority of respondents who complied with title formalisation requirement were highly educated respondents who were engaged in formal sector employment. In addition, they were aware of title formalisation requirement and perceived formalisation as relevant. A number of possible reasons may be assigned to the foregoing realisation.

To begin with, formalisation of title is a formal sector activity. Therefore, awareness of title formalization requirement, and relevance of title formalisation, all things being equal, may be more prevalent among formal sector employment respondents compared to their counterparts in the informal sector. Secondly, respondents with higher level of education were likely to occupy sensitive positions at their place of work and in society. As such, they could have had influence and connections at relevant institutions to expedite formalisation of title to their properties.

It is also imperative to make the point that with the exception of tertiary level educated and formal sector respondent groups, which had 50% or more of their respondents complying with the title formalisation requirement, complaint respondents within the remaining variable groups on individual group basis accounted for less than 50% compliance rate. This, therefore, raises the question as to the extent to which the independent variables can predict compliance with title formalisation requirement. This is, however, the subject matter of a later discussion. For now the chapter proceeds to examine the cross tabulation results on building permit acquisition requirement and the independent variables.

6.5.2 Building Permit Requirement and the Independent Variables

Building Permit Requirement and Gender

31.9% (n = 22) of the male respondents relative to 29% (n = 9) of the female respondents had complied with the building permit acquisition requirement. The male compliant respondents formed 71% of the compliant respondents and 22% of the sample as against 29% of the compliant respondents and 9% of the sample for the female respondents. 68.1% (n = 47) of the male respondents relative to 71% (n = 22) of the female respondents, conversely, had not complied with the requirement. The male non-compliant respondents formed 68.1% of the non-compliant respondents and 47% of the sample compared to those of the female who constituted 31.9% and 22% of the non-compliant respondents and the sample respectively. The chi-square for the difference between the male and female compliant respondents, and that of the male and female non-compliant respondents was not statistically significant at 5% ($\chi^2=0.081$, $p=0.776$ $n = 100$). This means that the alternative hypothesis, which states that there is a statistically significant difference between the groups should be rejected implying further that the difference between the groups is not more than what could have happened by chance.

Building Permit Requirement and Education Level

52.9% (18) of the tertiary level educated respondents relative to 19.7% (n = 13) of the below tertiary level educated respondents had complied with the building permit acquisition requirement. The compliant tertiary level educated respondents constituted 58.1% of the compliant respondents and 18% of the sample while the compliant below tertiary level educated respondents accounted for 41.9% of the compliant respondents and 13% of the sample. However, 47.1% (n = 16) of the tertiary level educated respondents relative 80.3% (n = 53) of the below tertiary level educated respondents had not complied with the requirement. The non-compliant tertiary level educated respondents constituted 23.2% of the non-compliant respondents and 16% of the sample compared to their below tertiary level educated counterparts who accounted for 76.8% of the non-compliant respondents and 53% of the sample. The chi-square for the difference between the compliant tertiary level educated and the below tertiary level educated respondents, and the tertiary level educated and the below tertiary level educated non-compliant respondents, was statistically significant at 5% ($X^2=11.594$, $p=0.001$ $n = 100$). This means that there is enough basis for the rejection of the null hypothesis, which states that there is no statistically significant difference between the groups. This further indicates that substantially, the tertiary level educated respondents complied more with the building permit acquisition requirement compared to the below tertiary level educated respondents and vice-versa.

Building Permit Requirement and Occupation

45% (27) of the respondents engaged in formal sector employment compared to 10% (n = 4) of their counterparts in the informal sector employment had complied with the building permit acquisition requirement. The compliant respondents engaged in formal sector employment constituted 87.1% of the compliant respondents and 27% of the sample. The compliant respondents employed in the informal sector also constituted 12.9% of the compliant respondents and 4% of the sample. Conversely, 55% (n = 33) of the respondents in formal sector employment compared to 90% (n = 36) of the respondents in informal sector employment had not complied with the requirement. The non-compliant formal sector engaged respondents formed 47.8% of the non-compliant respondents and 33% of the sample while their counterparts in the informal sector accounted for 52.2% of the non-compliant respondents and 36% of the sample. The chi-square for the difference between the compliant formal and informal sector engaged respondents, and non-compliant formal and informal sector engaged respondents was

statistically significant at 5% ($X^2=13.745$, $p<0.001$ $n = 100$). This means the null hypothesis, which states that there is no statistically significant difference between the groups should be rejected. Thus, substantially more of the respondents engaged in formal sector employment complied with building permit acquisition requirement compared to their counterparts in the informal sector and vice-versa. This further gives credence to earlier studies, which assert that comparatively workers of the informal sector are the worst culprit of non-compliance with ULUP regulations in the developing world (see Payne and Majale, 2004; Watson, 2009a; UN-Habitat, 2009a).

Building Permit Requirement and Awareness

39.7% ($n = 31$) of the respondents who were aware of building permit acquisition requirement compared to none of the respondents who was unaware of the requirement had complied with the requirement. This represented 100% of the respondents who complied with the requirement and 31% of the sample. Again, 60.3% ($n = 47$) of the respondents who were aware of the requirement relative to 100% ($n = 22$) of the respondents who were unaware had not complied with the requirement. The non-compliant respondents who were aware of the requirement accounted for 68.1% of the non-compliant respondents and 47% of the sample while their counterparts who were unaware of the requirement also constituted 31.9% of the non-compliant respondents and 22% of the sample.

The chi-square for the difference between the compliant respondents who were aware and unaware of the requirement, and the non-compliant respondents who were aware and unaware was statistically significant at 5% ($X^2=12.672$, $p<0.001$ $n = 100$). This implies that the null hypothesis, which professes that there is no statistically significant difference between the groups should be rejected meaning that substantially, the respondents who were aware of the requirement complied more with it in proportionate terms compared to those who were unaware. That said, substantially more of the respondents (60.3%) who were aware of the requirement had not complied. This contradicts the literature that suggests that lack of awareness of ULUP regulations in SSA is one of the main determinants of their low compliance rate (see Afrane, 1993; UN-Habitat, 1999, 2009a; Payne and Majale, 2004; Kironde, 2006). Conversely, the findings give credence to Boamah *et al.* (2012), and Arimah and Adeagbo (2000) who reported low compliance with planning regulations despite high level of awareness of regulations. However, as noted previously these mixed outcomes may be due to the nature of regulation, which

forms the subject matter of a relevant study. Whatever it is, this issue is examined in detail later on in the chapter.

Building Permit Requirement and Relevance of ULUP

35.1% (n = 13) of the respondents who perceived ULUP in Ghana as relevant as against 28.6% (n = 18) of the respondents who perceived ULUP in Ghana as not relevant had complied with the building permit acquisition requirement. The compliant respondents who perceived ULUP in Ghana as relevant constituted 41.9% of the compliant respondents and 13% of the sample. The compliant respondents who perceived ULUP in Ghana as not relevant constituted 58.1% of the compliant respondents and 18% of the sample. 64.9% (n = 24) of the respondents who perceived ULUP in Ghana as relevant compared to 71.4% (n = 45) of the respondents who perceived ULUP in Ghana as not relevant had not complied with requirement. Non-compliant respondents who perceived ULUP in Ghana as relevant constituted 34.8% of the non-compliant respondents and 24% of the sample. The non-compliant respondents who perceived ULUP in Ghana as not relevant constituted 65.2% of the non-compliant respondents and 45% of the sample.

The chi-square for the difference between the compliant respondents who perceived ULUP in Ghana as relevant and those who perceived it as not relevant, and the non-compliant respondents who perceived ULUP in Ghana as relevant and those who perceived it as not relevant was not statistically significant at 5% ($X^2=0.469$, $p=0.493$ $n = 100$). This implies that the alternative hypothesis which states that there is a statistically significant difference between the groups should be rejected meaning that the difference in the groups is not more than what could have happened by chance. Even so, it is observed that more of the respondents who had complied with the requirement perceived ULUP in Ghana as not relevant. This means they must have complied out of perhaps the wish to be law abiding.

Building Permit Requirement and Awareness and Relevance of ULUP

35% (n = 35) of the respondents were aware of the building permit requirement and perceived ULUP in Ghana as relevant. However, only 37.1% (n = 13) of them had complied with the requirement compared to 62.9% (n = 22) who had not complied with it. The compliant respondents constituted 41.9% of the entire compliant respondents while the non-compliant respondents accounted for 31.9% of the entire non-compliant respondents. This means respondents who were aware of building permit requirement and at the same time perceived ULUP in Ghana as relevant neither constituted the

majority of the compliant nor non-compliant with building permit acquisition requirement respondents.

The foregoing results from the cross tabulation including the chi-square tests demonstrate that substantially more of the respondents who complied with the building permit acquisition requirement had received tertiary level education and were engaged in formal sector employment. Additionally, they were aware of the requirement. The possible reasons for this finding may be the same as what was outlined for the title formalisation requirement under section 6.5.1. Conversely, substantially more of the non-compliant respondents had not received tertiary level education and were engaged in informal sector employment. Besides, they were unaware of the requirement. Given the interplay of these variables, to what extent do they predict compliance with the requirement?

6.5.3 Correlates of Socio-Economic Characteristics: Title Formalisation Requirement

The strength of the independent variables in predicting the outcome of compliance with title formalisation requirement was determined by binary logistic regression model (the logit model). The summary statistics of the logit model for compliance with title formalisation requirement is outlined by Table 6.12. From Table 6.12, the -2Log Likelihood of the model is 105.17. This feature of the logit model gives an indication of how accurate the model predicts an outcome (dependent) variable. In determining this, the -2Log Likelihood of the model without the predictors (independent variables); that is the feature of the model with only the constant variable was compared with the model.

Table 6. 12 Logit Model Summary Statistics – Socio-Economic Factors and Title Formalisation Requirement (n = 100)

Items	Statistics
-2Log Likelihood	105.17
Cox and Snell R ²	0.216
Nagelkerke R ²	0.297
Over all percentage prediction	69.0
Model Chi-square	24.32*

(* for p<0.05)

The potency, however, is reflected in the model's chi-square. The chi-square is, thus, more or less an analogue of the *F-test* for the linear regression sum of squares and tells whether or not the overall model is predicting the outcome variable better. The chi-square figure for the model is 24.32 and was statistically significant at 5% ($X^2=24.32$, $p<0.001$ $n = 100$), meaning that the model predicts the outcome variable significantly better. The Cox and Snell R² and Nagelkerke R² are part of Pseudo- R²s that usually come with the logit model. Unlike the linear regression model, Pseudo- R²s in binary logistic

regression are usually unable to ascertain correctly the proportion of the variance in the outcome variable determined by the predictor variables. The overall percentage prediction of the model, conversely, was 69.0 and gives indication as to the proportion of cases the model classifies correctly and predicts accurately. The results from the model are as given by Table 6.13.

Table 6.13 demonstrates that property owners who had knowledge of title formalisation requirement were 2.01 times more likely to comply with the requirement. Those who perceived title formalisation as relevant were also 3.86 more likely to comply with the requirement. However, both cases were not statistically significant at 5%. This signifies that though there is a positive relationship between property owners' awareness of the title formalisation requirement and compliance with the requirement, such relationship is not more than what could have happened by chance. Therefore, property owners' awareness of the title formation requirement is not a strong predictor or determinant of compliance with the title formalisation requirement. The possible reason for this finding is the comparatively high level of non-compliance with the requirement among the respondents who were aware of the requirement compared to those who were aware and complied with it (48.2% against 51.8%). Similarly, perception of title formalisation as relevant from statistics viewpoint cannot predict or determine compliance with the title formalisation requirement. This finding is also not strange given that 80% of the respondents who perceived title formalisation as relevant had not complied with it.

Table 6.13 further demonstrates that male property owners were 1.16 times more likely to comply with the title formalisation requirement while property owners who had attained tertiary level of education were 1.02 times more likely to comply with the requirement. However, both results were not statistically significant at 5%. This suggests that both factors are not strong predictors or determinants of compliance with the title formalisation requirement. These findings may be attributed to comparatively high level of non-compliance with the requirement among these groups of respondents (60.9% as against 39.1% for male property owners and 47.1% as against 52.9% for tertiary educated respondents). Conversely, formal sector employment had a strong positive association with compliance with the title formalisation requirement. Property owners who were in formal sector employment were 3.81 times more likely to comply with the title formalisation requirement. This result was statistically significant at 5%. The possible reason for this finding is the substantial number of property owners within this variable

group who complied with the requirement (50%), which also constituted 85.7% of the compliant respondents.

Table 6. 13 Summary Results of the Logit of Compliance with Title Formalisation Requirement (n = 100)

Variables	B	S.E.	Exp(B)	95.0% C.I. for EXP(B)	
				Lower	Upper
Male Property Owner (PO/2012:Q1)	.147	.550	1.16	.394	3.406
Tertiary Level Educated Property Owner (PO/2012:Q2)	.020	.548	1.02	.349	2.985
Property Owner engaged in formal sector employment (PO/2012:Q3)	1.337	.675	3.81 *	1.015	14.283
Property Owner Awareness of Formalisation Requirement (PO/2012:Q7)	.699	.537	2.01	.702	5.766
Perception of Title Formalisation as relevant (PO/2012:Q8)	19.771	1.090E4	3.86	.000	.
Constant	-21.699	1.090E4	.000		

Statistical significance is between property owners who comply with Title Formalisation Requirement and those who do not (* for $p < 0.05$)

6.5.4 Correlates of Socio-Economic Characteristics: Building Permit Requirement

The summary statistics of the logit model for compliance with building permit acquisition requirement is outlined in Table 6.14. From Table 6.14, the model's -2Log Likelihood is 96.5. Its chi-square statistic is also 27.31. The chi-square statistic was significant at 5% ($X^2=27.31, p<0.001, n = 100$). This means that the model predicts the outcome variable; compliance with the building permit requirement quite well. The overall percentage prediction of the model was 73% signifying that 73% of the cases were classified and predicted correctly by the model. The results produced by the model are summarised in Table 6.15.

Table 6.15 shows that property owners who were aware of the building permit acquisition requirement were 5.75 times more likely to comply with the requirement. However, those who perceived ULUP in Ghana as relevant were 0.86 times likely to comply with the requirement. Both cases were not statistically significant at 5% signifying that awareness of the building permit requirement and perception of planning in Ghana as relevant are not

strong determinants of compliance with the requirement. These results may be attributed to the low compliance with the requirement among the two populations; 39.7% as against 60.3% for awareness of the building permit requirement and 35.1% as against 64.9% for perception of planning as relevant (see Section 6.5.2).

Table 6. 14 Logit Model Summary Statistics – Socio-Economic Factors and Building Permit Requirement (n = 100)

Items	Statistics
-2Log Likelihood	96.51
Cox and Snell R ²	0.239
Nagelkerke R ²	0.337
Over all percentage prediction	73.0
Model Chi-square	27.31 *

(* for p<0.05)

Table 6.15 also shows that male property owners were 0.56 times likely to comply with the building permit acquisition requirement compared to the tertiary level educated and formal sector employed property owners who were 1.98 times and 3.11 times more likely to complied with the requirement respectively. These cases were also not statistically significant at 5%. This suggests that compliance with building permit acquisition is not determined by gender category male neither is it determined by higher level of education nor formal sector employment. Similar to the findings on respondents' awareness of building permit requirement, the possible reasons for these results may be the low compliance with the requirement among the respondent samples of the variable groups.

Table 6. 15 Logit Summary Results of the Logistic Regression of Compliance with Building Permit Requirement (n = 100)

Variables	B	S.E.	Exp(B)	95.0% C.I. for EXP(B)	
				Lower	Upper
Male Property Owner (PO/2012:Q1)	-.589	0.59	0.56	0.17	1.77
Tertiary Level Educated Property Owner (PO/2012:Q2)	0.68	0.55	1.98	0.67	5.85
Property Owner engaged in Formal Sector Employment (PO/2012:Q3)	1.13	0.74	3.11	0.72	13.26
Property Owner Awareness of Building Permit Requirement (PO/2012:Q9)	20.17	8.301E3	5.75	0.00	.
Perception of ULUP as Relevant (PO/2012:Q10)	-.157	0.49	0.86	0.32	2.25
Constant	-21.26	8.301E3	0.00		

Statistical significance is between property owners who comply with Building Permit Requirement and those who do not (* for p<0.05)

The experts used for the external validation in consensus agreed with these findings. They observed that the general lack of compliance with planning requirements cut across all socio-economic groupings particularly the building permit requirement. One of the experts indicated that:

“The general non-compliance with building permit requirement (regulation) and indeed ULUP and urban development regulations is irrespective of socio-economic background; whether educated or non-educated, aware or not aware of regulation, engaged in formal or informal sector employment, even though some groups may have higher incidence than others.”

In conclusion, there is no doubt particularly from the cross tabulation results that the predictor variables, such as awareness of ULUP regime requirements, relevance of title formalisation and ULUP may be useful for compliance with ULUP regime requirements in Ghana. However, results from the logistic regression have established that these variables though may be important for compliance with ULUP regime requirements they by themselves alone are not enough to ensure compliance with ULUP regime requirements. This is further supported by comments from the external validators, which pointed out that the outlined socio-economic characteristics cannot predict compliance with the ULUP requirements albeit there could be exceptions. More importantly, this revelation supports insights from the conceptual framework (Chapter 2), which identified these factors as subsidiary to prime incentive and Wekwete’s (1995) observation of the need to look at cost of compliance with the requirements as one of the main drivers of their compliance.

6.6 Chapter Summary

This chapter presented the first part of results, analyses and discussions of the research. It dwelt on the relationship between property owners’ socio-economic characteristics and compliance with ULUP regime requirements. The chapter began with a discussion on the profile of the study area and then generated descriptive statistics of the socio-economic attributes of the sample and their compliance with the subject ULUP regime requirements. Subsequently, cross tabulation of compliance with the ULUP regime requirements; title formalisation and build permit acquisition requirements, and the independent variables (predictors) with chi-square tests were run. Finally, a binary logistic regression (the logit model) analysis on the variables to ascertain the strength of the independent variables (predictors) in predicting the dependent variable(s) (outcome) was undertaken.

Insights from the human action based conceptual framework as discussed and subsequently applied to SSA planning regimes in (Chapters 2 and 3) revealed that for property owners to act in compliance with planning regulations, they must be impelled by incentives. That is, the benefit of compliance with planning requirements must be more than its cost – prime incentive. Also, property owners must have prior knowledge of planning requirements and establish the relevance of planning to their ends – socio-economic development. It was established that compliance rate with title formalisation and building permit requirements was low despite high level of awareness of the requirements among respondents. Also, while title formalisation was perceived relevant, ULUP as practiced in Ghana was not deemed relevant. Furthermore, the respondents who were aware and perceived title formalisation as relevant substantially complied with the requirement compared to their counterparts who were not aware of the requirement and perceived title formalisation as irrelevant. However, results from the logistic regression demonstrate that awareness of the title formalisation requirement and perceived relevance of title formalisation were not strong predictors of compliance with the requirement. In the same vein, awareness of the building permit requirement and perception of ULUP in Ghana as relevant were not strong predictors of compliance with the requirement.

The foregoing therefore suggests that awareness of planning requirements and perception of relevance of planning though useful factors for compliance with ULUP regime requirements, they by themselves alone are not enough to predict compliance with these requirements. This reinforces insights from the human action based conceptual framework, which contends, among others that such factors should be buttressed by prime incentive as a major driver of compliance. More importantly, the findings suggest that placing too much emphasis on promotion of awareness of title formalisation requirement and relevance of title formalisation in a bid to promote compliance with the requirement may not be the fundamental issue contrary to the common perception in the case study country and suggestions by studies such as Larbi (1994) and the LAP Document (2003). Conversely, ULUP was not perceived as relevant by respondents. The literature discussions in (Chapter 3) however demonstrated that SSA planning requirements are restrictive and do not allow property owners to put their houses into compatible multiple land uses particularly in low income neighbourhoods (Payne and Majale, 2004). Besides, the requirements are not receptive to informal economic activities, a major source of livelihood for majority of the people in the sub-region (Brown, 2012). Therefore, these planning requirements are seen as obstacles to socio-

economic development. Consequently, it will be useful to address these challenges to make planning more meaningful to socio-economic development as part of addressing the incentive question. That said, the state of the prime incentive offered by the subject planning regime is not known. The next chapter commences the process of determining whether or not the subject ULUP regime provides prime incentive with an assessment of its ULUP regime requirement compliance cost.

Chapter Seven

Results, Analyses and Discussion: Part Two

7.1 Introduction

In a bid to address the central argument of this research and the research question, it was established *inter alia* in chapter two that the cost of compliance with ULUP regime requirements must be juxtaposed with its benefit. Subsequently, procedures for assessment of the cost and benefit were outlined in chapter four. Chapter six has also demonstrated that factors, such as awareness of ULUP regime requirements and relevance of ULUP within the geographical limit of the research, though useful, by themselves alone cannot predict compliance with these requirements. This gives credence to the insights of the conceptual framework developed in chapter two requiring that policy makers also look at cost and benefit of compliance with ULUP regime requirements. However, as pointed out from the outset of this research, the extent of such cost and benefit is unknown implying the need to assess them.

This chapter, therefore, presents part two of the survey results, analyses and discussion, and dwells on cost of compliance with ULUP regime requirements. The purpose of the chapter is to calibrate and outline the cost of ULUP regime requirements for ultimate comparison with their benefit. The chapter, thus, executes ULUP regime requirements compliance cost assessment procedures displayed in chapter four. It commences with examination of sub-division planning scheme cost followed by infrastructure and social amenities, and architectural design costs. Title to property formalisation and building permit acquisition costs were also examined thereafter. Finally, the chapter zeros in on an amalgamation of all the planning requirements cost.

To ensure systematic cost assessment, the following activities were undertaken:

1. The sub-division planning scheme of Regimanuel Gray's Balloon Gate Housing Estate, which falls under planning scheme number TCPD/N/Dom/88/1 described in the preceding chapter was used as a guide for the assessment of sub-division planning scheme and infrastructure and amenities costs. Boundary plan of the land for the subject housing estate, which is 16.20 hectares (40 acres), is shown herein as Figure 7.1.

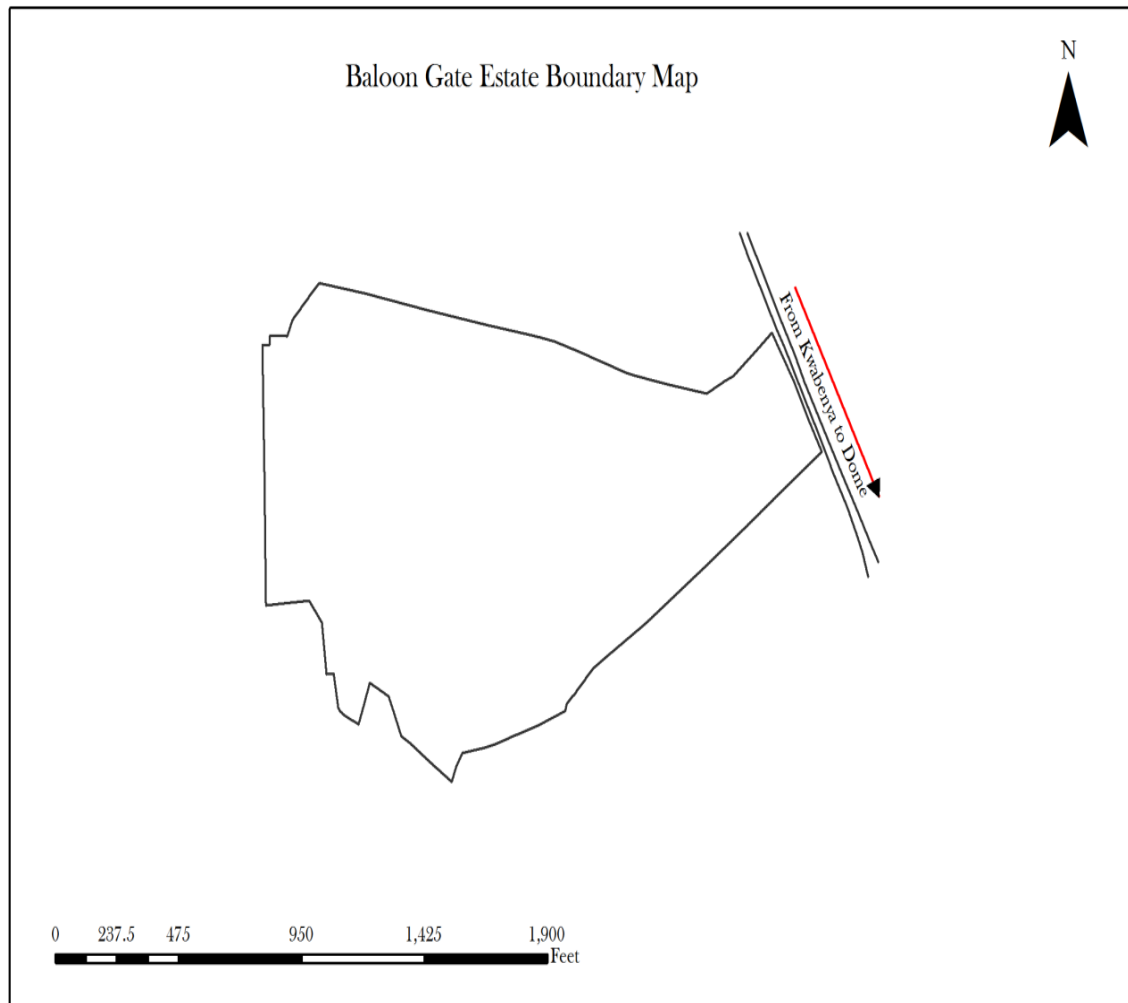


Figure 7. 1 Baloon Gate Housing Estate Boundary Map.

Source: GEMA Planning Department

2. Ghana's Planning Standard and Development Guidelines 1990, was also used. Thus, based on these guidelines and discussions with the GAR Secretariat of the TCPD, land use distribution was arrived at for the research. Table 7.1 summarises the land use distribution for the research.
3. Beyond the foregoing, the research in its entirety used a standard 3-bedroom house of 254m² floor area on 0.065-hectare (0.16-acre) 50 or more years' leasehold land as a basis for analysis. It was also assumed that nearby settlements will provide land uses, such as refuse dump and cemetery to serve the envisaged planned community.
4. Cost of capital of 27.5% was adopted. This was the actual average cost of capital that was being charged by commercial banks in Ghana (average lending rate) as at the time of the survey within the property/construction sector. The rate was obtained from BOG (see also <http://www.bog.gov.gh>). In adopting this rate, the average 1 and 2 years BOG Bond and GOG 91 day Treasury bill rates as well as

the overall average Ghana Stock Exchange yield were examined. However, given that the research relates to the built environment, the most appropriate option under the circumstance was to use the actual passing rate in the industry, hence the adoption of the subject rate. Similarly, the Ghana Cedi (GH¢) exchange rate to the USA Dollar (\$) that was prevailing at the time of the survey was adopted to convert monetary assessments in GH¢ to \$. The exchange rate, thus, adopted was \$1.00 = GH¢1.50. This was also obtained from BOG (see <http://www.bog.gov.gh>).

5. Based on the extant practice where three-quarters and in some cases all contract fees for a service are paid in advance, all payments were assumed to be in advance.
6. Though it has been emphasised as part of the analysis, unless otherwise stated, the median figures obtained from the results of the survey regarding architectural design, title formalisation and building permit acquisition costs were used in the cost assessments. This was premised on the fact that distributions of responses on the survey variables were not normal as per the Kolmogorov-Smirnov and Shapiro-Wilk normality tests. Under such circumstances, the median is a better representative of the sample than the mean (Field, 2005; Africon, 2008).

Table 7. 1 Adapted Land Use Distribution

Land Use	Allotted Land Size	% of Overall Land
Residential	9.72 hectares (24 acres)	60
Commercial	0.32 hectare (0.8 acre)	2
Roads	1.62 hectares (4 acres)	10
Community Park	1.62 hectares (4 acres)	10
School	1.3 hectares (3.2 acres)	8
Worship Centre	0.5 hectare (1.2 acres)	3
Electricity	0.4 hectare (1 acre)	2.5
Pipe Borne Water	0.4 hectare (1 acre)	2.5
Telephone	0.32 hectare (0.8 acre)	2
Total	16.20 hectares (40 acres)	100

Source: Author's Field Survey- May - November, 2011

7.2 Approved Sub-Division Planning Scheme Cost (ω_1)

As established in the literature, significant number of neighbourhood developments in economies in SSA are not covered by approved sub-division plans or preparation and approval of such plans take unduly long period of time with huge cost implications (see Nkum and Associates, 2001; Farvacque and McAuslan, 1992; Kironde, 2006; Egbu *et al.*,

2008). Equation 4.11; $\omega_1 = \frac{\kappa}{\delta} \times [(\alpha \times \gamma) \times (1 + i)^n] + \varepsilon$ was used in the assessment of cost

of approved sub-division planning scheme per property. Data for assessment of sub-division planning scheme cost was obtained from GAR TCPD after preliminary discussions with ULUP officials at Consortium, the main private consultancy institution in Accra that does preparation and securing of planning approval for sub-division planning schemes for land owners. Thus, armed with information initially obtained from Consortium using the Baloon Gate Housing Estate sub-division planning scheme, the researcher proceeded to the TCPD to obtain the unit cost rate for sub-division planning scheme based on discussions with the Regional Director. The unit cost rate applied for the purpose of this research is GH¢0.344/m². The rate took account of factors, such as cost of survey and production of base map and sub-division plan preparation with planning report, which was based on Ghana Institute of Planners per acreage rates. The remainder was statutory fees for processing and approval of planning scheme and out of pocket payments for facilitation of planning scheme approval process at a planning authority's office. It was also established that survey and preparation of base maps for land size, such as the guide estate usually take two months while preparation of sub-division planning scheme with report takes three months. However, examination of records at the GEMA Planning Department on processing and approval of planning schemes since 2006 and subsequent discussion with planning officials at the Department indicate that, on average, it takes two years for a scheme to be processed and approved. In the light of these revelations, 2 years and 5 months was used as the duration within which a comparable sub-division planning scheme will be prepared and approved, towards assessing the cost under reference. Table 8.2 summarises details of the cost of approved sub-division planning scheme.

Table 7. 2 Sub-Division Planning Scheme Cost

Land size of property	Land size for cost Apportionment	Cost/Hectare	Total land Size	Compounding Factor	Sub-division planning Scheme Cost/property
650m ²	118,400m ²	GH¢0.344	162,000m ²	1.7832	GH¢545.60

Source: Author's Field Survey – May – November, 2011

Table 8.2 demonstrates that the cost of approved sub-division planning scheme per property is GH¢545.60 or \$363.73.

7.3 Infrastructure and Amenities Cost (ω_2)

The role of infrastructure in socio-economic development of nations has long been established both in theory and in practice (Africon, 2008; Calderon and Servén, 2008).

Theoretically, studies, such as Arrow and Kurz (1970) and Barro (1990) have demonstrated the positive effect of infrastructure on output and productivity. Empirically, other studies like Estache (2006) and Romp and de Haan (2007) have also established a positive relationship between infrastructure and productivity. Indeed, Calderon and Servén (2008) concluded from estimates on assessment of impact of infrastructure development on growth and inequality in SSA that it has a potential contribution to growth and equity across the sub-continent.

Despite the foregoing revelation, infrastructural development in SSA continues to be low; among the developing regions of the world, SSA consistently ranks bottom regarding infrastructure performance (Calderon and Servén, 2008). For example, apart from the telecommunication sector which has seen some tremendous growth; from 5% of the population that lived within the range of mobile telecommunication in 1999 to 60% in 2010 following deregulation of the sector, most of the physical infrastructural developments are below par (see Africa Rising 21st Century, 2010). As at 1998 only 12% of Africa's road network had been paved (see Africa Rising 21st Century, 2010) and even existing road networks are also not maintained regularly (Gwilliam *et al.*, 2008). Similarly, only 20% of Africa's population has access to electricity compared to 50% in South Asia and 80% in Latin America (Chapter 3).

Compounding the above situation is the huge cost of infrastructural development on the sub-continent. It is said that the cost of infrastructure is not cheap (Calderon and Servén, 2008). However, in SSA it is very expensive. For example, the cost of infrastructural services in SSA is at least double those in South Asia and in certain areas five times high (Chapter 3). Africon (2008) also submits that the median unit cost/km for construction of less than 50km paved road in SSA is \$401,646.00 while that of rehabilitation is \$352,613. With regard to water and sanitation, the median unit cost/m of installation of pipe mains is \$457.00 and that of reservoir construction/kl is \$1,067.00. In terms of electricity, the median unit cost/km line for greater than or equal to 66kv transmission is \$27,632.00. However, these costs are general and have not been expressed in terms of a unit residential development.

From chapters four and five, the costs of infrastructure and social amenities were established as costs relating to roads and drains, telephone, electricity, pipe-borne water and community park. These costs were assessed by Equation 4.12; that is,

$$\omega_2 = \omega_{2_1}, \dots, \omega_{2_j} = \frac{\kappa}{\delta} \times [\varphi + (\mu \times \mathcal{G}) \times (1 + i)^n] + \varepsilon$$

The individual costs were assessed as follows:

7.3.1 Roads and Concrete Drains Cost (ω_{21})

Data for assessment of roads and concrete drains cost was obtained from DUR and the LVB. Research participants from the DUR provided cost information on road and related civil works construction based on discussions held with them using the guide estate as the reference point. It was established from the research participants that local communities or residential neighbourhood roads in Ghana are of two types; paved and unpaved. The paved type community/residential neighbourhood roads come in three forms; surface dressing, asphalt and concrete pavement block roads. The unpaved roads are also of two types; earth work and gravel. It was further established that the choice of any of these types of roads depends, among others on volume of traffic and function of road.

Community/residential neighbourhoods roads usually encountered in Ghana are of the surface dressing type with width of 8m inclusive of drains and walkway. The cost assessment was, thus, based on the foregoing. The unit cost for roads and drains provided by the research participants based on evidence of cost of construction of similar neighbourhoods' roads at DUR, was GH¢137.2/m². The unit cost took account of factors, such as professional fees, performance bond and insurance. The research participants based on their past experience and records at DUR also indicated that construction of similar roads and drains on average takes eight (8) months. That aside, information obtained from LVB puts the value of land in the developing areas of the study area at GH¢12.376/m². Table 7.3 on the premise of the outlined information summarises the cost of roads and concrete drains. From Table 7.3, the cost of roads and drains per property is GH¢15,410.50 or \$10,273.70. In accordance with the earlier discussions, the cost per property for roads and drains is high taking into account the socio-economic conditions of the people in SSA and Ghana for that matter.

Table 7. 3 Roads and Drains Cost

Land size of property	Land size for cost Apportionment	Land Cost	Cost/M ²	Total Land for Roads & Drains	Compounding Factor	Roads & Drains Cost/property
		GH¢				GH¢
650m ²	118,400m ²	200,491.2	GH¢137.2	16,200m ²	1.1727	15,410.50

Source: Author's Field Survey - May - November, 2011

While the present case remotely may be accounted for by the scale effect of the guide estate, it is known from the literature that escalating roads and drains construction cost is as a result of cost overruns through delays in projects execution, high prices of inputs and lack of competition (Africon, 2008). Indeed, Africon (2008) in their survey of 24 road construction projects in SSA established that the average project in the sample experienced 35% cost overrun with a third of the sample experiencing over 50% cost overrun while a few of them reached 100%.

7.3.2 Telephone Cost (ω_{2_2})

Data for the assessment of fixed line telephone cost per property was obtained from VGL. The cost was in respect of connecting a planned residential neighbourhood to the facility, but not individual properties. Thus, providing fixed line telephone service at what is commonly referred to as “mains” level. It was established during discussions with research participants that two main systems of connecting settlements be they cities, towns or neighbourhoods to fixed line telephone service operate in Ghana. These are the overhead outside plant network and the underground outside plant network otherwise known as fibre telephone technology or Gigabit Passive Optical Network. In spite of the advantages of the underground outside plant network, such as achievement of higher bandwidth and higher efficiency from larger and variable-length packets due to its usage of fibre technology, the overhead network system forms the basis of this work. Thus, the overhead outside plant network fixed line telecommunication system, which usually thrives on copper wires on wooden poles for connection between specified points, was relied on. This is because it is the widely used system in Ghana perhaps because of its comparatively short term cost effectiveness as revealed by the research participants.

The fixed line telephone cost was also determined from the shortest possible distance within which the facility can be connected from a main transmission line or station onto

the guide estate. The shortest possible distance from a main transmission line in this case was about 40m. Based on the layout (sub-division planning scheme) of the guide estate and VGL existing cost data, a unit cost rate of GH¢160.00/m² was arrived at by research participants for application. This unit cost rate took account of professional fees, contingencies and permit acquisition for installation of telecommunication facility in the study area.

Research participants further indicated that installation of fixed line telephone main distribution outlets on a scale, such as the guide estate on average takes six months. Table 7.4 on the basis of application of the data summarises details on fixed line telephone cost per property.

Table 7. 4 Fixed Line Telephone Cost

Land size of property	Land size for cost Apportionment	Land Cost	Cost/M ²	Total Land for Fixed Line Telephone	Compounding Factor	Fixed Line Telephone Cost/Property
650m ²	118,400m ²	GH¢ 39,603.2	GH¢ 160.00	3,200m ²	1.1269	GH¢ 3,385.03

Source: Author's Field Survey – May – November, 2011

From Table 7.4, fixed line telephone cost per property is GH¢3, 385.03 or \$2,257.00.

7.3.3 Electricity Cost (ω_{2_3})

The cost per property for electricity was assessed by reasoning similar to that of the fixed line telephone facility. The data for the cost assessment was obtained from ECG. Like the telecommunication installation network, two main networks for electricity distribution in Ghana were established from interaction with the research participants. These are overhead line distribution network and the underground cable distribution network. As their names imply, the overhead line distribution network entails distribution of electric power via cables over poles while that of underground involves transmission of electric power underground using cables. It was also established from research participants that though the underground cable distribution offers reliability in terms of power supply, the overhead line distribution network is cheaper, easy to maintain and mostly used in the case study country. Consequently, the overhead line distribution network was assumed in this research and the cost is limited to distribution of electric power at the “mains” level.

Again, it was established from the survey that distribution of electric power to settlements or communities is tapped from a transposition tower or a high tension line. Similar to the practice with the fixed line telecommunication, the shortest possible distance within which electric power could have been tapped from a high tension line to the guide estate was at ECG sub-station near Atomic Junction, which is about 1km. An average household size of four people and the usage of two 500 KVA transformers were assumed. On the basis of the foregoing, the research participants arrived at a unit cost rate of GH¢141.24/m² for application by the researcher. Apart from the wooden poles and accessories, the applicable unit cost rate in addition took account of items, such as professional fees, administrative expenses and taxes. It was also established that, on average the duration for completion of similar such project is between 6-8 months. The cost assessment assumed seven months, an average of the two time periods. Table 7.5 outlines the summary of the electricity cost assessment. Table 7.5 shows that the electricity cost per property is GH¢3,875.00 or \$2,583.33.

Table 7. 5 Electricity Cost

Land size of property	Land size for cost Apportionment	Land Cost	Cost/M ²	Total Land for Electricity	Compounding Factor	Electricity Cost/Property
		GH¢	GH¢			GH¢
650m ²	118,400m ²	50,000.00	141.24	4040m ²	1.1496	3,875.00

Source: Author's Field Survey – May – November, 2011

7.3.4 Pipe-Borne Water Cost (ω_{24})

Assessment of the cost of pipe-borne water per property also followed similar procedure for assessment of cost of the other infrastructural services. Thus, the cost assessment used the Balloon Gate Housing Estate sub-division planning scheme as a guide and dwelt on installation of pipe-borne water facility at the “mains” level from the shortest possible distance from a main public service line, which was 0.5m. As intimated earlier, the unit cost rate adopted was based on calculation by the GWCL officials who were the research participants in this instance. In view of the topography and perennial water problem in the study area outlined in (Chapter 6), the calculation was based on an assumption of dealing with low water inflows and pressure levels and provision of requisite interventions. As such, two underground concrete reservoirs with capacities of 90,000 and 180,000 litres as well as an overhead concrete tank with a capacity of 90,000 litres were assumed. Consistent with the earlier assumptions, research participants assumed an average

household size of four people with water consumption of 2,250 litres per week. Additionally, the research participants on the basis of their experience and evidence of similar projects undertaken or supervised by GWCL assumed six months project duration.

Table 7. 6 Pipe-Borne Water Cost

Land size of property	Land size for cost Apportionment	Land Cost	Cost/M ²	Total Land for Pipe-borne Water	Compounding Factor	Pipe-borne Water Cost/Property
650m ²	118,400m ²	GH¢50,000.00	GH¢942.20	4040m ²	1.1269	GH¢23,824.33

Source: Author's Field Survey – May – November, 2011

A unit cost rate of GH¢942.00/m² was arrived at by the research participants for application. The unit cost rate also took account of administrative charges. Table 7.6 summarises details on the cost per property with regard to pipe-borne water. From Table 7.6, the pipe-borne water connection cost per property is GH¢23,824.33 or \$15,883.00.

7.3.5 Community Park Cost (ω_{25})

The unit cost rate for the assessment of the cost per property was obtained from Ghana's DPG. The research participants assessed the unit cost rate after discussions with the researcher. The rate was assessed based on a park with lawn of grass, trees and shrubs. The park was also assumed to have walkways, footpaths, parking space, park office, park benches, park lights, drainage system and place of convenience, among others. The unit cost rate arrived at by research participants was GH¢6.501/ m². The rate was inclusive of administrative charges. The total duration for construction of the park and its maintenance was one year. This was based on the experience of the research participants and similar works undertaken by the DPG. Details on the community park cost per property following application of the unit cost rate are as shown by Table 7.7. Table 7.7 shows that community park cost per property is GH¢1,835.00 or \$1,223.33.

Table 7. 7 Community Park Cost

Land size of property	Land size for cost Apportionment	Land Cost	Cost/M ²	Total Land for Community Park	Compounding Factor	Community Park Cost/Property
650m ²	118,400m ²	GH¢ 200,491.2	GH¢ 6.501	16,200m ²	1.27	GH¢ 1,835.00

Source: Author's Field Survey – May – November, 2011

7.4 Architectural Design Cost (ω_3)

The architectural design cost per property was assessed by Equation 4.13; $\omega_3 = (\sigma + \lambda + \nu)(1+i)^n + \varepsilon$. Data for assessment of this cost was based on analysis of results from survey no. 2a; survey on architectural design cost. Participants in the survey were real estate valuers and real estate officers/agents. The results of the survey are outlined as follows:

7.4.1 Background of Respondents

79% of the sample were males while 21% of them were females. 45% of the respondents were real estate valuers compared to 55% who were real estate officers/agents. The minimum number of years of professional experience of respondents was one year compared to the maximum of 32 years. The highest levels of incidence regarding years of professional experience were 8 (18%), 10 (13%), 6 (12%), 5 (11%), 12 (9%) 7 (8%), and 14 (7%) and 15 (7%) years in that order. The respondents who had the foregoing years of professional experience cumulatively constituted 85% of the sample. As to the professional usually engaged by respondents to undertake architectural designs, the survey established that 65% of the respondents usually engaged architects, while 35% engaged draughtsmen. Within the real estate valuers, 64.4% usually engaged the services of architects while 35.6% of them used the services of draughtsmen. With regard to real estate officers/agents, 65.5% usually engaged the services of architects relative to 34.5% of them who used the services of draughtsmen.

7.4.2 Duration, Follow up, Commuting and Waiting Times

Table 7.8 summarises details of the descriptive statistics on responses obtained for, on average, duration for preparation of architectural designs, follow up per month to expedite action on preparation of designs, and commuting and waiting times per follow up.

Table 7. 8 Descriptive Statistics on Design Duration, Follow up, Commuting and Waiting Times (n = 100)

	Duration for Design Preparation (in Months)	Follow up/Month	Commuting Time/Follow up (in Hours)	Waiting Time/ Follow up (in Hours)
Mean	0.98	2.72	1.68	0.86
Median	1.00	3.00	2.00	0.75
Mode	1.00	3.00	2.00	1.00
Std. Deviation	0.37	0.65	0.69	0.49

Source: Author's Field Survey – May – November, 2011

Table 7.9 also presents the results of the mean ranks by profession regarding responses on the variables. From Table 7.8, on average, the mean duration in month for a design to be prepared was 0.98 while the median was one. The standard deviation was also 0.37. However, since the distribution of the responses was not normal, the median was selected as the representative of the sample. This means that, on average, the duration for preparation of architectural design with respect to the specified property in Accra and its environs was one month.

The mean ranks and sums of mean ranks of the responses as per Table 7.9 were 50.76 and 2284.00 for real estate valuers, and 50.29 and 2766.00 for real estate officers/agents. The Mann-Whitney test on the difference in mean ranks revealed that it was not statistically significant at 5% ($U=1226.00$, $p=0.931$ $n = 100$). This implies that the difference between the mean rank of real estate valuers and that of real estate officers/agents was not more than what could have happened by chance. In essence, professional background of respondents had no effect on the duration it takes for designs to be completed.

Table 7. 9 Mean Ranks of Duration, Follow up, Commuting and Waiting Times (n = 100)

Activity	Profession	N	Mean Rank	Sums of Ranks
Duration for Design Preparation	Real Estate Valuer	45	50.76	2284.00
	Real Estate Officer/Agent	55	50.29	2766.00
Follow up per Month	Real Estate Valuer	45	46.01	2070.50
	Real Estate Officer/Agent	55	54.17	2979.50
Commuting Time per Follow up	Real Estate Valuer	45	54.44	2450.00
	Real Estate Officer/Agent	55	47.27	2600.00
Waiting Time Per Follow	Real Estate Valuer	45	45.61	2052.50
	Real Estate Officer/Agent	55	54.50	2997.50

Source: Author's Field Survey – May – November, 2011

Table 7.8 also demonstrates that the mean number of follow up, on average, respondents make per month to expedite action on the preparation of design was 2.72. The median was three and the standard deviation, 0.65. The median was, however, used as the true representative of the sample since distribution of the responses was not normal. For the mean ranks and sums of mean ranks of the responses, Table 7.9 shows figures of 46.01 and 2070.50 for real estate valuers and 54.17, and 2979.50 for real estate officers/agents respectively. The Mann-Whitney test established that the difference in mean ranks between responses from the two professional backgrounds was not more than what could have happened by chance. Thus, it was not statistically significant at 5% ($U=1035.500$, $p=0.108$ $n = 100$). This suggests that professional background of respondents had no effect on the number of follow up made to expedite action on design preparation. With one month duration for preparation of a design, the total number of follow up to expedite action on preparation of architectural design was assessed at three.

Again, Table 7.8 shows that, on average, the mean commuting time per follow up to expedite action on design preparation by respondents was 1.66 hours relative to the median of two hours while the standard deviation was 0.69 of an hour. The median figure was used as the representative figure for the sample since responses were not normally distributed. In terms of mean ranks and sums of mean ranks, Table 7.9 exhibits that the set of figures for real estate valuers was 54.44 and 2450 while that of real estate officers/agents was 47.27 and 2600.00. The Mann-Whitney test revealed that the difference in mean ranks of responses from the two professional groupss was not statistically significant at 5% ($U=1060.00$, $p=0.188$ $n = 100$). This, thus, provides enough grounds to suggest that the difference is no more than what could have happened by chance and that professional background of respondents had no effect on the commuting time per follow up to expedite action on design preparation. However, given that the entire number of follow up to ensure completion of design was three, then multiplying the commuting time per follow up; two hours by the number of follow up gives the total commuting time for design preparation, which is six hours. Table 7.10 summarises details on commuting time for the preparation of architectural design.

Table 7. 10 Commuting Time for Design Preparation

Duration (Month)	Follow up/Month	Commuting Time/Follow up (Hours)	Total Commuting Time (Hours)
1	3	2	6

Source: Author's Field Survey - May - November, 2011

In addition, Table 7.8 shows that, on average, the mean waiting time per follow up in hours to expedite action on design preparation was 0.87 compared to the median figure of 0.75. The standard deviation on the other hand was 0.49. Again, since responses were not normally distributed, median waiting time was used as the representative figure for the sample. The mean ranks and sums of mean ranks for waiting time per follow up from Table 7.9 were 45.6 and 2052.50 for real estate valuers and 54.50 and 2997.50 for real estate officers/agents. The Mann-Whitney test on difference in mean ranks also revealed that the difference was not statistically significant at 5% ($U=1017.500$, $p=0.110$ $n = 100$) meaning that professional background of respondents had no effect on waiting time per follow up for design preparation. In total, the waiting time for design preparation was assessed at 2.25 hours through multiplication of waiting time per follow up by number of follow up for the entire duration of the design preparation. Table 7.11 summarises the details.

Table 7.11 Waiting Time for Design Preparation

Duration (Month)	Follow up/Month	Waiting Time/Follow up (Hours)	Total Waiting Time (Hours)
1	3	0.75	2.25

Source: Author's Field Survey - May - November, 2011

7.4.3 Design Charge, Commuting Cost, Professional Fees and Cost of Time Lag

Summary of the descriptive statistics for, on average, design charge, commuting cost per follow up to expedite action on design preparation and professional fees for engaging and ensuring that an architect/draughtsman prepares a design is given by Table 7.12.

Table 7. 12 Descriptive Statistics on Design Charge, Commuting Cost per Follow up & Professional Fee (n = 100)

	Design Charge (GH¢)	Commuting Cost/Follow up (GH¢)	Professional Fee (GH¢)
Mean	720.00	15.17	231.20
Median	600.00	15.00	200.00
Mode	600.00	10.00*	200.00
Std. Deviation	320.98	6.023	74.47

Source: Author's Field Survey - May - November, 2011

Table 7.13 also gives the details of the mean ranks and sums of mean ranks of the responses by profession with respect to design charge, commuting cost per follow up and the professional fees.

Table 7. 13 Mean Ranks of Design Charge, Commuting Cost per Follow up and Professional Fee (n = 100)

Activity	Profession	N	Mean Rank	Sums of Ranks
Design Charge	Real Estate Valuer	45	51.10	2299.50
	Real Estate Officer/Agent	55	50.01	2750.50
Commuting Cost per Follow up	Real Estate Valuer	45	52.36	2356.00
	Real Estate Officer/Agent	55	48.98	2694.00
Professional Fee	Real Estate Valuer	45	53.77	2419.50
	Real Estate Officer/Agent	55	47.83	2630.50

Source: Author's Field Survey - May - November, 2011

From Table 7.12, on average, the mean design charge was GH¢ 720.00 compared to the median figure of GH¢ 600.00 while the standard deviation was GH¢320.98. The median figure was, however, considered representative of the sample since responses on the variable were not normally distributed. With regard to the mean ranks and the sums of mean ranks, Table 7.13 demonstrates that the mean ranks and sums of mean ranks for real estate valuers were 51.10 and 2299.50 while those of real estate officers/agents were 50.01 and 2750.50 respectively. The Mann-Whitney test carried on the difference in mean ranks revealed that the difference was not statistically significant at 5% ($U=1210.500$; $p=0.849$ $n = 100$). This means that the difference is not more than what could have happened by chance implying that professional background of the respondents had no effect on architectural design charge.

Table 7.12 also shows that the mean and median commuting cost per follow up by respondents to expedite action on the preparation of architectural design were GH¢ 15.17 and GH¢ 15.00 respectively. The standard deviation was GH¢ 6.024. Similar to earlier stipulation, the median was considered the true representative of the sample since distribution of responses was not normal. This means that, on average, commuting cost per follow up was GH¢ 15.00. Also, the mean ranks and sums of mean ranks of responses from Table 7.13 were 52.36 and 2356.00 for real estate valuers and 48.98 and 2694.00 for real estate agents. The Mann-Whitney test undertaken on the difference in the mean ranks also revealed that it was not statistically significant at 5% ($U=1154$, $p=0.552$ $n = 100$) meaning that professional background of the respondents had no effect on the commuting cost per follow up. The commuting cost in connection with expediting action on design preparation was, thus, assessed through the multiplication of commuting cost per follow up by the number of follow ups for the entire design duration (see Table 7.14).

Table 7.12 again demonstrates that, on average, the mean professional fee charged for engaging and ensuring that an architect/draughtsman prepares a design on behalf of a

client was GH¢231.20. The median, conversely, was GH¢200 while the standard deviation was GH¢74.47. The distribution of responses on this variable was not normal. The median which is, comparatively, a better representation under such circumstance was, thus, adopted as the professional fee instead of the mean. The mean ranks and sums of the mean ranks of responses as per Table 7.13 were 53.77 and 2419.5 for real estate valuers and 47.83 and 2630.50 for real estate officers/agents respectively. The Mann-Whitney test on the difference in mean ranks was not statistically significant at 5% ($U=1090.50, p=0.286, n=100$) meaning professional background of the respondents had no effect on professional fee charge.

It is imperative to state that in assessing professional fees, the researcher was not oblivious of the assessment of such fees using standardised consultancy rates on duration of project and waiting and travel times (see Hammond, 2006; Hammond and Antwi, 2010). For example, the monthly, daily and hourly approved GoG consultancy rates were in the range of GH¢5,630.00-GH¢9,860, GH¢280.00-GH¢500.00; and GH¢45.00-GH¢80.00, respectively, less re-imbursables and depending on the level of a consultant (GoG, 2010). However, in reality charges are not based on these standard rates. Rather, they are based on negotiation between parties involved in consultancies, hence the reliance on information from the survey, which was also the practice for the subsequent cost assessments.

On the basis of the foregoing, architectural design cost per property was assessed at GH¢862.00. Its equivalent in \$ terms was \$574.67. Table 7.14 summarises details on the architectural design cost per property.

Table 7. 14 Architectural Design Cost

Design Cost	Commuting Cost	Professional Fee	Cost of Time Lag	Compounding Factor	Architectural Design Cost/Property
GH¢ 600.00	GH¢ 45.00	GH¢ 200.00	GH¢ 17.00	1.020	GH¢ 862.00

Source: Author's Field Survey - May - November, 2011

It is apparent from Table 7.14 that even though architectural design charge constituted bulk of the architectural design cost per property; almost 70%, the remaining 30% constituting related cost to main design cost is comparatively substantial.

7.5 Title Formalisation Cost (ω_4)

It has been asserted in the extant literature that time and cost for title formalisation in SSA are, high. According to World Bank (2005) it takes 116 days to register a property in SSA with 14.4% of the value of a registerable property as cost compared to 34 days and 4.8% of property value as cost of registration in OECD high income region. The time and cost of registration expressed as a percentage of property values in other regions are demonstrated in Table 7.15.

Even though the above data does not give specifics, it demonstrates that cost and time for registration of property are comparatively high in SSA. Survey number 2 (see Chapter 5) was used in procuring data for the assessment of title formalisation cost per property. Prior to outlining the results, it imperative to make the point that title formalisation in Ghana connotes two things; plotting at the LC and title registration at the LTR.

Table 7. 15 Time and Cost for Registration of Property in Regions of the World

Region	Time (Number of Days)	Cost (% of Property Value)
East Asia and Pacific	51	4.2
Middle East and North Africa	6.8	64
South Asia	6.1	56
Latin America and Caribbean	62	5.6
Eastern Europe and Central Asia	133	3.2

Source: World Bank (2005)

Title registration at the LTR, however, forms the basis for the cost assessment owing to extant requirement since 2006 that all family lands must be formalised by that procedure. Again, title formalisation in Ghana entails continuum of several activities that also involve several government agencies (see Hammond, 2006; Toulmin, 2008; Abdulai and Hammond, 2010). These are preparation of deed, undertaking stamp duty at the LVB, cadastral or parcel plan preparation at the SD, title search at the LC and the normal title registration processes at the LTR. The usual practice is that upon purchase of land an additional fee is given to the vendor of the land to prepare the transfer deed. This fee is a bulk figure and covers items and activities, such as site plan, drafting of the deed and connected services. Title formalisation cost per property was assessed by Equation 4.14 (see Chapter 4):

$$\omega_4 = \left(\phi + \sum_{\chi=1}^i \chi \right) (1+i)^n + \varepsilon$$

However, results from the survey and its analysis that generated the requisite data for the equation are as follows:

7.5.1 Background of Respondents

86% of the respondents were male compared to 14% who were female. In terms of profession, 44% of the respondents were real estate/land agents relative to 30% and 26% who were real estate valuers and lawyers respectively. The years of professional experience of respondents was in the range of three and 36 years while all the respondents reported that the type of land they usually facilitated registration were family lands. This, therefore, supports the findings in (Chapter 6) that lands in the study area are mainly family lands.

7.5.2 Duration, Follow up, Commuting and Waiting Times (Deed)

Table 7.16 presents summary of the descriptive statistics on duration for deed preparation, follow up made to a vendor of land in a month by respondents to expedite action on deed preparation and commuting and waiting times per follow up. Table 7.17 also presents the mean ranks of responses by profession with respect to the said variables. From Table 7.16, on average, the mean duration for preparation of a deed in months was 1.50. The median and standard deviation, however, were one and 1.04, respectively. The median was used as the true representative of the sample since responses were not normally distributed. Thus, on average, it takes a month for a deed to be prepared.

Table 7. 16 Descriptive Statistics on Deed Duration, Follow up, Commuting and Waiting Times (n = 100)

	Duration for Deed Preparation (in Months)	Follow up/Month	Commuting Time/Follow up (in Hours)	Waiting Time/Follow up (in Hours)
Mean	1.49	4.01	2.28	1.05
Median	1.00	4.00	2.00	1.00
Mode	1.00	4.00	3.00	1.00
Std. Deviation	1.04	2.06	0.79	0.55

Source: Author's Field Survey – May – November, 2011

The mean ranks of responses as per Table 7.17, however, were 53.65 for real estate valuers, 54.19 for lawyers and 46.17 for real estate/land agents. The Kruskal-Wallis test on the difference in mean ranks revealed that it was not statistically significant at 5% ($H(2) = 2.027, p = 0.363, n = 100$) meaning that professional background of the respondents had no effect on the duration for deed preparation.

Table 7. 17 Mean Ranks of Deed Duration, Follow up, Commuting and Waiting Times (n = 100)

Activity	Profession	N	Mean Rank
Duration for Deed Preparation	Real Estate Valuer	30	53.65
	Lawyer	26	54.19
	Real Estate/Land Agent	44	46.17
Follow up per Month	Real Estate Valuer	30	54.57
	Lawyer	26	43.48
	Real Estate/Land Agent	44	51.88
Commuting Time per Follow up	Real Estate Valuer	30	51.93
	Lawyer	26	60.85
	Real Estate/Land Agent	44	43.41
Waiting Time Per Follow	Real Estate Valuer	30	51.75
	Lawyer	26	48.04
	Real Estate/Land Agent	44	51.10

Source: Author's Field Survey – May – November, 2011

Also, from Table 7.16, on average, the mean number of follow ups made per month to expedite action on deed preparation was 4.01 while the median was four and the standard deviation 2.06. The median was used as the representative of the sample since responses were not normally distributed. As such, the number of follow up per month respondents made to expedite action on deed preparation was four. The mean ranks of responses from Table 7.17 were real estate valuers 54.57, lawyers 43.48 and real estate/land agents 51.88. However, the differences in mean ranks as per the Kruskal-Wallis test was not statistically significant at 5% ($H(2) = 2.397, p = 0.302, n = 100$). This signifies that professional background of the respondents had no effect on the number of follow ups made to expedite action on deed preparation.

Furthermore, Table 7.16 reveals that, on average, the mean commuting time per follow up in hours to expedite action on deed preparation was 2.28 relative to the median figure of two and standard deviation of 0.79. The median was used to represent the sample because responses were not normally distributed. Therefore, commuting time per follow up to expedite action on deed preparation was two hours. Using the same reasoning as in the case of architectural design, the total commuting time for deed preparation was eight hours. From Table 7.17 also the mean ranks of the responses were 51.93 for real estate valuers, 60.85 for lawyers, and 43.41 for real estate/land agents. The difference in mean ranks as per the Kruskal-Wallis test was, however, statistically significant at 5% ($H(2) = 6.576, p = 0.037, n = 100$). This means that professional background of the respondents had an effect on commuting time per follow up to expedite action on deed preparation.

Additionally, Table 7.16 demonstrates that, on average, the mean, median and standard deviation waiting time in hours per follow up to expedite action on deed preparation were 1.05, one and 0.55, respectively. However, since responses were not normally distributed,

the median was used as the representative of the sample. As such, the waiting time per follow up to expedite action on deed preparation was one hour and the waiting time for deed preparation was four hours in line with the already outlined assessment procedure. That said, from Table 7.17 the mean ranks of the responses were 51.75 for real estate valuers, 48.04 for lawyers, and 51.10 for real estate/land agents. The difference in mean ranks per the Kruskal-Wallis test was not statistically significant at 5% ($H(2) = 0.318$, $p = 0.853$ $n = 100$) signifying that professional background of the respondents had no effect on the waiting time for deed preparation.

7.5.3 Deed and Commuting Costs (Deed)

Tables 7.18 and 7.19 give summary descriptive statistics of deed cost and commuting cost per follow up, and the mean ranks of responses by profession respectively.

Table 7. 18 Descriptive Statistics on Deed Cost and Commuting Cost per Follow up (n = 100)

	Deed Cost (GH¢)	Commuting Cost per Follow up GH¢)
Mean	689.75	20.70
Median	625.00	20.00
Mode	800.00	20.00
Std. Deviation	221.92	10.28

Source: Author's Field Survey - May - November, 2011

From Table 7.18, on average the mean deed cost was GH¢689.75 compared to the median figure of GH¢625.00. The standard deviation was GH¢221.92. The median figure was used as the representative of the sample since distribution of responses was not normal. Therefore, the deed cost was GH¢625.00. The mean ranks from Table 7.19 were 48.95 for real estate valuers, 72.81 for lawyers and 38.38 for real estate/land agents. The difference in mean ranks of the responses as per the Kruskal-Wallis test was statistically significant at 5% ($H(2) = 23.864$, $p < 0.001$ $n = 100$) signifying that professional background of the respondents had an effect on deed cost.

Table 7. 19 Mean Ranks of Deed Cost and Commuting Cost per Follow up (n = 100)

Activity	Profession	N	Mean Rank
Deed Cost	Real Estate Valuer	30	48.95
	Lawyer	26	72.81
	Real Estate/Land Agent	44	38.38
Commuting Cost per Follow up	Real Estate Valuer	30	58.57
	Lawyer	26	61.48
	Real Estate/Land Agent	44	38.51

Source: Author's Field Survey - May - November, 2011

Table 7.18 also demonstrates that, on average, the mean commuting cost per follow up was GH¢20.70 while the median was GH¢20.00. The standard deviation was GH¢10.20. However, since responses were not normally distributed the median was used as the representative of the sample. As such, the commuting cost per follow up was GH¢20.00. Consequently, the commuting cost for deed preparation was assessed at GH¢80.00 by similar reasoning used in assessing the commuting cost under architectural design cost assessment. The mean ranks of the responses regarding commuting cost also were 58.57 for real estate valuers, 61.48 for lawyers and 38.51 for real estate/land agents. The difference in mean ranks was statistically significant as per the Kruskal-Wallis test at 5% ($H(2) = 13.938, p = 0.001, n = 100$) meaning that professional background of the respondents had an effect on commuting cost.

7.5.4 Duration, Follow up, Commuting and Waiting Times (Public Agencies)

Table 7.20 gives summary descriptive statistics on duration for title formalisation activities at public agencies and follow up made per month by respondents to these agencies to expedite action on the activities. Table 7.20 also summarises the descriptive statistics on commuting and waiting times per follow up to expedite action on title formalisation activities at the public agencies. Table 7.21 on the other hand summarises details on the mean ranks of responses by profession in connection with these variables. However, as with previous cases the distributions of responses on the variables were not normal meaning that their medians were better representatives of the sample. This presupposes that from Table 7.21, on average it takes half month for a deed to be stamped at LVB with three follow ups by respondents and commuting and waiting times per follow up of 1.5 and 1 hour, respectively. In line with previous assessment procedure, therefore, the total commuting and waiting times for stamp duty were 4.5 and 3 hours, respectively. The mean ranks of responses on duration for stamp duty activity at LVB, from Table 7.21, were 47.77 for real estate valuers, 46.58 for lawyers and 54.68 for real estate/land agents. The difference in mean ranks of responses was not statistically significant at 5% ($H(2) = 2.054, p = 0.358, n = 100$) as per the Kruskal Wallis test. This signifies that professional background of respondents had no effect on the duration for undertaking stamp duty.

Table 7. 20 Descriptive Statistics on Duration, Follow up, Commuting and Waiting Times at Public Title Formalisation Agencies (n = 100)

Public Agency/Activity		Duration (in Months)	Follow up per Month	Commuting Time per Follow up (in Hours)	Waiting Time per Follow up (in Hours)
LVB/Stamp Duty	Mean	0.46	2.83	1.53	1.19
	Median	0.50	3.00	1.50	1.00
	Mode	0.50	2.00	1.50	1.00
	Std. Deviation	0.20	1.02	0.52	0.65
LTR/Title Registration and other connected activities	Mean	6.47	7.16	1.85	1.11
	Median	6.00	8.00	2.00	1.00
	Mode	6.00	8.00	2.00	1.00
	Std. Deviation	3.38	3.65	0.77	0.54
SD/Cadastral Survey and Plan preparation	Mean	4.10	4.35	1.53	0.98
	Median	4.00	4.00	1.50	1.00
	Mode	4.00	4.00	1.50	1.00
	Std. Deviation	2.29	2.87	0.54	0.52
LC/Land Title Search	Mean	0.83	3.39	1.52	0.80
	Median	0.75	3.00	1.50	0.75
	Mode	1.00	3.00	1.50	1.00
	Std. Deviation	0.26	1.48	0.52	0.31

Source: Author's Field Survey - May - November, 2011

Table 7. 21 Mean Ranks on Duration, Follow up, Commuting and Waiting Times at Public Title Formalisation Agencies (n = 100)

Public Agency/Activity	Profession	N	Duration (Mean Rank)	Follow up per month (Mean Rank)	Commuting Time per Follow up (Mean Rank)	Waiting Time per Follow up(Mean Rank)
LVB/Stamp Duty	Real Estate Valuer	30	47.77	51.07	44.53	48.12
	Lawyer	26	46.58	47.56	44.33	56.71
	Real Estate/Land Agent	44	54.68	51.85	58.22	48.45
LTR/Title Registration and other connected activities	Real Estate Valuer	30	48.03	43.47	45.02	50.87
	Lawyer	26	55.44	43.58	44.46	49.37
	Real Estate/Land Agent	44	49.26	59.39	57.81	50.92
SD/Cadastral Survey and Plan preparation	Real Estate Valuer	30	55.65	43.97	42.93	50.78
	Lawyer	26	60.02	45.92	44.87	55.92
	Real Estate/Land Agent	44	41.36	57.66	58.99	47.10
LC/Land Title Search	Real Estate Valuer	30	49.95	49.53	43.05	50.37
	Lawyer	26	52.23	50.88	44.98	50.92
	Real Estate/Land Agent	44	49.85	50.93	58.84	50.34

Source: Author's Field Survey - May - November, 2011

Table 7.21 further shows that the mean ranks of responses with regard to follow up per month to expedite action on stamp duty were 51.07 for real estate valuers, 47.56 for lawyers and 51.85 for real estate/land agents while those for commuting time per follow up were 44.53 for real estate valuers, 44.33 for lawyers and 58.22 for real estate/land agents. With regard to waiting time, the mean ranks were 48.12 for real estate valuers, 56.71 for lawyers and 48.45 for real estate/land agents. With the exception of difference in mean ranks for commuting time per follow up, which was statistically significant at 5% ($H(2) = 6.071, p = 0.048, n = 100$) the remaining two variables; follow up per month ($H(2) = 0.427, p = 0.808, n = 100$) and waiting time per follow up ($H(2) = 1.738, p = 0.420, n = 100$), were not statistically significant. This means that while professional background of the respondents had an effect on the former variable, it had no effect on the latter variables.

Again, from Table 7.20, on average, the duration for land title registration activities at LTR, follow up per month, commuting and waiting times per follow up in connection with such activities were six months, eight times, two and one hours, respectively. Therefore, the commuting time for title registration activities was assessed at 96 hours while that of waiting time was 48 hours. The mean ranks of responses for duration on title registration activities from Table 7.21 were 48.03 for real estate valuers, 55.44 for lawyers and 49.26 for real estate/land agents while those of follow up per month were 43.47 for real estate valuers, 43.58 for lawyers and 59.39 for real estate/land agents. Those of commuting and waiting times were 45.02 for real estate valuers, 44.6 for lawyers and 57.81 for real estate/land agents, and 50.87 for real estate valuers, 49.37 for lawyers and 50.92 for real estate/land agents, respectively. Except the difference in mean ranks of responses for follows up per month to expedite action on title registration activities, which was statistically significant at 5% ($H(2) = 7.767, p = 0.021, n = 100$), mean ranks for the remaining variables; duration ($H(2) = 1.147, p = 0.564, n = 100$), commuting time ($H(2) = 5.352, p = 0.69, n = 100$) and waiting time ($H(2) = 0.069, p = 0.969, n = 100$) were not statistically significant as per the Kruskal-Wallis test. This, thus, provides basis to suggest that while professional background of the respondents had an effect on follow up per month to expedite action on title formalisation activities, it had no effect on the other variables.

Additionally, from Table 7.20, on average, the duration for cadastral survey and preparation of plan was four months and follow up at SD per month by respondents to expedite action on the activity was four. The commuting and waiting times per follow

were 1.5 and one hours, respectively. The commuting time for this activity was, thus, estimated at 24 hours and waiting time, 16 hours. The mean ranks of responses regarding duration for the activity from Table 7.21 were real estate valuers 55.65, lawyers 60.02 and real estate/land agent 41.36, while those of follow up per month were real estate valuers 43.97, lawyers 45.92 and real estate/land agent 57.66. Those of commuting and waiting times were 42.93 for real estate valuers, 44.87 for lawyers and 58.99 for real estate/land agents, and 50.78 for real estate valuers, 55.92 for lawyers and 47.10 for real estate/land agents respectively. The difference in mean ranks of responses with respect to the duration for the activity and commuting time per follow up as per the Kruskal-Wallis test were statistically significant at 5% ($H(2) = 8.665, p = 0.013, n = 100$) and ($H(2) = 8.665, p = 0.013, n = 100$) respectively. Those of follow up per month and waiting time per follow up were, however, not statistically significant; ($H(2) = 5.352, p = 0.064, n = 100$) and ($H(2) = 2.037, p = 0.364, n = 100$) respectively. This means that while professional background of the respondents had an effect on duration for the survey and cadastral plan production and commuting time to expedite action, it did not have an effect on follow up and waiting time with respect to the said activity.

Table 7.20 also demonstrates that, on average, it takes 0.75 month with three follow ups at LC to expedite action on land title search. The commuting and waiting times per follow up were 1.5 hours and 0.75 of an hour, respectively. The commuting and waiting time for this activity were assessed at 4.5 and 2.25 hours, respectively. The mean ranks of the responses on duration for title search from Table 7.21 were real estate valuers 49.95, lawyers 52.23 and real estate/land agents 49.85, while those of follow up at LC to expedite action on the activity was 49.53 for real estate valuers, 50.88 for lawyers and 50.93 for real estate/land agents. Those of the commuting and waiting times were 43.05 for real estate valuers, 44.98 for lawyers and 58.84 for real estate/land agents, and 50.37 for real estate valuers, 50.92 for lawyers and 50.34 for real estate/land agents, respectively. The difference in mean ranks of responses as per the Kruskal-Wallis test with respect to commuting time per follow up was statistically significant at 5% ($H(2) = 7.159, p = 0.028, n = 100$) while those of the remaining variables; duration ($H(2) = 0.143, p = 0.931, n = 100$), follow up per month ($H(2) = 0.064, p = 0.969, n = 100$) and waiting time ($H(2) = 0.008, p = 0.996, n = 100$) were not statistically significant. This suggests that unlike commuting time, which professional background of the respondents had an effect on, professional background of the respondents had no effect on the other variables. However, on the basis of the discussions so far Table 7.22 summarises duration, commuting and waiting times for title formalisation.

Table 7. 22 Title Formalisation Duration and Commuting and Waiting Times

Duration	Deed Preparation	LVB	LTR	SD	LC	Total
	1 month	0.5 month	6 month	4 month	0.75 month	12.25 months
Commuting Time	8 hours	4.5 hours	96 hours	24 hours	4.5 hours	137 hours
Waiting Time	4 hours	3 hours	48 hours	16 hours	2.25 hours	73.25 hours

Source: Author's Field Survey – May – November, 2011

From Table 7.22, on average the total duration for title formalisation is 12.25 months. With 12 months being equivalent to one year, or 365 days, the duration for title formalisation on average was 373 days. This is not too far from the average estimate by the World Bank (2005) for the case study country, which is 382 days; but significantly far above the figure for SSA, which is 116 days. Even so, it is imperative to state that unlike the present study that focused on family lands, the World Bank study appears to be general even though there are different procedural requirements for the various types of lands in Ghana and would have been more useful if such categorisations were put forward by the World Bank.

7.5.5 Official Fees

As indicated earlier, title formalisation entails several activities, which are undertaken at several public (government) agencies. Rendering of these activities by the said agencies attract statutory fees payable by property owners. Data on these fees was procured from examination of the relevant records at the said agencies and their fee fixing instruments (see Chapter 5). Table 7.23 summarises details on the official (statutory) fees charge in connection with title formalisation.

Table 7. 23 Official Fee Charge for Title Formalisation

Public Agency	Activity	Fee Charge (GH¢)
LVB	Stamp Duty	16.00
LTR	Title Registration	115.00
SD	Cadastral Survey & Plan	96.00
LC	Land Title Search	15.00
Total	-	242.00

Source: Author's Field Survey – May – November, 2011

The official fee for title formalisation was, thus, summed up as GH¢242.00.

7.5.6 Commuting Cost and Unofficial Fees (Public Agencies).

Table 7.24 gives descriptive statistics of commuting cost per follow up at public agencies to expedite action on title formalisation activities. Table 7.25 also summarises the mean

ranks of responses by profession on commuting cost per follow at these agencies. Distribution of responses again was not normal so the medians were used as the true representatives of the sample. As such, from Table 7.24, on average, commuting cost per follow up at LVB, LTR, SD and LC were GH¢15.00, GH¢16.50, GH¢15.00, and GH¢15.00, respectively.

Table 7. 24 Commuting Cost Per Follow up at Public Title Formalisation Agencies (n = 100)

	LVB	LTR	SD	LC
Mean	14.89	16.58	15.08	15.00
Median	15.00	16.50	15.00	15.00
Mode	10.00	20.00	10.00	10.00
Std. Deviation	6.46	6.98	6.51	6.48

Source: Author's Field Survey – May – November, 2011

The mean ranks of responses regarding commuting cost per follow to LVB as per Table 7.25 were 49.42 for real estate valuers, 45.85 for lawyers and 53.99 for real estate/land agents while those of LTR were 50.52 for real estate valuers, 44.06 for lawyers and 54.51 for real estate/land agents.

Table 7. 25 Mean Ranks Commuting Cost per Follow up at Public Title Formalisation Agencies (n = 100)

Activity	Profession	N	LVB	LTR	SD	LC
Commuting Cost per Follow on Title Formalisation Activities at Public Agencies	Real Estate Valuer	30	49.42	50.52	48.50	48.90
	Lawyer	26	45.85	44.06	46.77	45.42
	Real Estate/Land Agent	44	53.99	54.51	54.07	54.59

Source: Author's Field Survey – May – November, 2011

Those of SD and LC were 48.50 for real estate valuers, 46.77 for lawyers and 54.07 for real estate/land agents, and 48.90 for real estate valuers, 45.42 for lawyers and 54.59 for real estate/land agents respectively. The differences in mean ranks of responses on commuting cost per follow up at all the public agencies were not statistically significant at 5% as per the Kruskal-Wallis test; LVB ($H(2) = 1.403$, $p = 0.496$), LTR ($H(2) = 2.229$, $p = 0.328$, $n = 100$), SD ($H(2) = 1.289$, $p = 0.525$, $n = 100$) and LC ($H(2) = 1.836$, $p = 0.399$, $n = 100$). This means that professional background of the respondents had no effect on the cost for commuting to these agencies to expedite action on the title formalisation activities. The quantum of commuting cost for title formalisation was assessed at GH¢1,202.00. Table 7.26 summarises the details on commuting cost associated with title formalisation.

Table 7. 26 Commuting Cost Associated with Title Formalisation

Deed Preparation GH¢	LVB GH¢	LTR GH¢	SD GH¢	LC GH¢	Total GH¢
80.00	45.00	792.00	240.00	45.00	1,202.00

Source: Author's Field Survey – May – November, 2011

Summary descriptive statistics of unofficial fee paid at public agencies on title formalisation activities is given by Table 7.27.

Table 7. 27 Unofficial Fee Paid at Public Agencies on Title Formalisation Activities (n = 100)

	LVB (GH¢)	LTR (GH¢)	SD (GH¢)	LC (GH¢)
Mean	64.50	377.10	404.50	64.60
Median	50.00	400.00	400.00	50.00
Mode	50.00	400.00	400.00	50.00
Std. Deviation	25.90	158.77	122.08	25.52

Source: Author's Field Survey – May – November, 2011

Since the distributions on responses were not normal, the medians were used as the true representative of the sample. Therefore, on average unofficial fee paid on title formalisation was assessed at GH¢900.00. Table 8.29 gives a breakdown on the fee.

Table 7. 28 Mean Ranks on Unofficial Fee on Title Formalisation (n = 100)

Activity	Profession	N	LVB	LTR	SD	LC
Unofficial Fees for Title Formalisation Activities at Public Agencies	Real Estate Valuer	30	52.35	56.77	45.35	54.77
	Lawyer	26	65.88	53.00	62.63	66.90
	Real Estate/Land Agent	44	40.15	44.75	46.84	37.90

Source: Author's Field Survey – May – November, 2011

Table 7.28, however, gives the mean ranks of the responses by profession regarding unofficial fee paid at the public agencies.

Table 7. 29 Unofficial Fee on Title Formalisation

LVB GH¢	LTR GH¢	SD GH¢	LC GH¢	Total GH¢
50.00	400.00	400.00	50.00	900.00

Source: Author's Field Survey – May – November, 2011

From Table 7.28, the mean ranks of responses on unofficial fee paid at the LVB were 52.35 for real estate valuers, 65.88 for lawyers and 40.15 for real estate/land agents while those of LTR were 56.77 for real estate valuers, 53.00 for lawyers and 44.75 for real estate /land agents. Those of SD and LC were 45.35 for real estate valuers, 62.63 for lawyers, 46.84 for real estate/land agents, and 54.77 for real estate valuers, 66.90 for lawyers and

37.90 for real estate/land agents respectively. The differences in mean ranks as per the Kruskal-Wallis test revealed that except unofficial fee paid at LTR ($H(2) = 3.503$, $p = 0.174$ $n = 100$), which was not statistically significant at 5%, all the unofficial fee paid at the other agencies; LVB ($H(2) = 13.953$, $p = 0.001$ $n = 100$), SD ($H(2) = 6.632$, $p = 0.036$ $n = 100$) and LC ($H(2) = 18.766$, $p < 0.001$ $n = 100$) were statistically significant. This implies that while professional background of the respondents had no effect on the unofficial fee paid at LTR, same had an effect on the unofficial fee paid at the other agencies.

7.5.7 Professional Fees and Cost of Time Lag

Table 7.30 gives summary descriptive statistics of service fees charged by respondents for ensuring execution of title formalisation activities on behalf of their clients. As with other situations, the median figure was used as the sample representative since responses were not normally distributed.

Table 7. 30 Professional Fee on Title Formalisation Activities (n = 100)

	Professional Fee(GH¢)
Mean	800.30
Median	800.00
Mode	800.00
Std. Deviation	371.42

Source: Author's Field Survey - May - November, 2011

This means that, on average, the professional fee charge for facilitating title formalisation activities on behalf of a client was GH¢800.00. The mean ranks of responses by profession are given by Table 7.31.

Table 7. 31 Mean Ranks on Professional Fee for Title Formalisation (n = 100)

Activity	Profession	N	Mean Rank
Professional Fee on Title Formalisation	Real Estate Valuer	30	54.22
	Lawyer	26	65.63
	Real Estate/Land Agent	44	39.02

Source: Author's Field Survey - May - November, 2011

From Table 7.31, the mean ranks of the responses were 54.22 for real estate valuers, 65.63 for lawyers and 39.02 for real estate/land agents. The difference in mean ranks of responses was statistically significant at 5% as per the Kruskal-Wallis test ($H(2) = 15.072$, $p = 0.001$ $n = 100$) meaning professional background of the respondents had an effect on professional fee charged by respondents. The result, however, confirms comparatively lawyers' high fee charges for title formalisation activities.

On the basis of the foregoing discussions, title formalisation cost per property was assessed at GH¢4,810.72 or \$3,207.15. Table 7.32 gives a breakdown of the cost.

Table 7. 32 Title Formalisation Cost

Official Fee	Cost of Time lag	Other Indirect costs	Compounding Factor	Title Formalisation Cost/Property
GH¢	GH¢	GH¢		GH¢
242.00	1,041.72	3,527.00	1.28	4,810.72

Source: Author's Field Survey – May – November, 2011

Again, from Table 7.32 unlike the World Bank (2005), which estimated title formalisation cost at 4.1% of the value of a registerable land/property, on average, in the case study country, this present study gives a definite, on average, figure; GH¢4,810.72.00 for the specified property. What is, however, noticeable from the World Bank (2005) assessment is that tying title formalisation cost to property values in general could be misleading. That aside, it is noted that the actual statutory (official) fee for title formalisation constituted only 5% of the title formalisation cost. This reinforces a related study by Hammond (2006), which observed that indirect cost constitutes about 90% of title formalisation cost in Ghana.

7.6 Building Permit Acquisition Cost (ω_5)

Building permit acquisition cost per property was assessed by Equation 4.15,

$$\omega_5 = (\phi + \tau + \pi + \nu)(1+i)^n$$

The requisite data for the assessment of the building permit acquisition cost was, however, procured through survey no. 2b. Results from the survey and its analysis are as follows:

7.6.1 Background of Respondents

84% of the sample were male while 16% were female. In terms of profession, 22% each were real estate valuers and real estate/land agents, 21% were architects/draughtsmen, 19% were real estate officers and 16% were lawyers. Respondents' professional experience was in the range of four and 32 years.

7.6.2 Duration, Follow up, Commuting and Waiting Times (Public Agencies)

Summary descriptive statistics of the duration for building permit activities', follow up per month at public agencies by the respondents to expedite action on the permit activities, and commuting and waiting times per follow are given by Table 7.33. Table 7.34 also gives the mean ranks of the responses by profession. Responses on the variables were not normally distributed. Consequently, the medians of the responses were used as representatives of the sample. From Table 7.33, on average, the duration for building permit activities at GEMA was five months while follow up per month to expedite action on building permit activities at the agency was three. The commuting and waiting times per follow up were two and one hour, respectively. Commuting and waiting times for GEMA building permit activities were, thus, assessed at 30 and 15 hours, respectively.

From 7.34, the mean ranks of responses with respect to duration for the building permit activities at GEMA were 53.82 for real estate valuers, 46.74 for real estate officers, 51.55 for real estate/land agents, 54.00 for lawyers and 46.67 for architects/draughtsmen. For follow up per month at GEMA to expedite action on permit activities, the mean ranks were 60.59 for real estate valuers, 46.08 for real estate officers, 52.93 for real estate/land agent, 44.84 for lawyers and 45.69 for architects/draughtsmen.

Table 7. 33 Duration, Follow up, Commuting and Waiting Times Building Permit Activities at Public Agencies (n = 100)

Public Agency/Activity		Duration in (Months)	Follow up per Month	Commuting Time per Follow up (in Hours)	Waiting Time per Follow up (in Hours)
GEMA/Processing main Building Permit Activities	Mean	5.09	3.20	2.24	0.98
	Median	5.00	3.00	2.00	1.00
	Mode	6.00	2.00	3.00	1.00
	Std. Deviation	2.53	1.63	0.72	0.39
LTR/Title Clearance	Mean	0.88	2.71	1.74	0.85
	Median	1.00	3.00	1.50	1.00
	Mode	1.00	2.00	1.00	1.00
	Std. Deviation	0.31	1.08	0.80	0.38

Source: Author's Field Survey - May - November, 2011

Table 7. 34 Mean Ranks on Duration, Follow up, Commuting and Waiting Times Building Permit Activities at Public Agencies (n = 100)

Public Agency/Activity	Profession	N	Duration (Mean Rank)	Follow up per month (Mean Rank)	Commuting Time per Follow up (Mean Rank)	Waiting Time per Follow up (Mean Rank)
GEMA/Processing main Building Permit Activities	Real Estate Valuer	22	53.82	60.59	50.25	50.36
	Real Estate Officer	19	46.74	46.08	56.39	52.26
	Real Estate/Land Agent	22	51.55	52.93	46.18	44.77
	Lawyer	16	54.00	44.84	52.72	56.91
	Architect/Draughtsman	21	46.67	45.69	48.26	50.17
LTR/Title Clearance	Real Estate Valuer	22	52.34	48.91	52.89	44.00
	Real Estate Officer	19	50.74	52.21	46.03	55.29
	Real Estate/Land Agent	22	50.23	57.30	58.14	56.16
	Lawyer	16	49.00	51.72	49.78	47.69
	Architect/Draughtsman	21	49.79	42.57	44.60	49.19

Source: Author's Field Survey – May – November, 2011

With regard to commuting time per follow up, they were 50.25 for real estate valuers, 56.39 real estate officers, 46.18 for real estate/land agents, 52.72 for lawyers and 48.26 for architects/draughtsmen. Those of the waiting time per follow up were 50.36 for real estate valuers, 52.26 for real estate officers, 44.77 for real estate/land agents, 56.91 for lawyers and 50.17 for architects/draughtsmen. However, the differences in mean ranks with respect to all the four variables by the Kruskal-Wallis test were not statistically significant at 5%; duration ($H(4) = 1.382, p = 0.847, n = 100$), follow up per month ($H(4) = 4.896, p = 0.298, n = 100$), commuting time per follow up ($H(4) = 1.678, p = 0.795, n = 100$) and waiting time per follow up ($H(4) = 1.974, p = 0.741, n = 100$). This means that professional background of the respondents had no effect on these variables.

Again, from Table 7.33, on average, it takes one month for title clearance to be undertaken at LTR with three follow ups to expedite action and commuting and waiting times of 1.5 and one hour, respectively. The commuting and waiting times for this activity were assessed at 4.5 and three hours, respectively. The mean ranks of responses from Table 7.34 were for duration; real estate valuers 52.34, real estate officers 50.74, real estate/land agent 50.23, lawyers 49.00 and architects/draughtsmen 49.79 while follow up to expedite action were, for real estate valuers 48.91, real estate officers 52.21, real estate/land agents 57.30, lawyers 51.72 and architects/draughtsmen 42.57. For commuting time per follow up, they were real estate valuers 52.89, real estate officers 46.03, real estate/land agents 58.14, lawyers 49.78 and architects/draughtsmen 44.60. Those of the waiting time per follow up were 44.00 for real estate valuers, 55.29 for real estate officers,

56.16 for real estate/land agents, 47.69 for lawyers and 49.19 for architects/draftsmen. The Kruskal-Wallis test for differences in mean ranks of the responses with respect to all the variables were, however, not statistically significant at 5%; duration ($H(4) = 0.176$, $p = 0.996$ $n = 100$), follow up ($H(4) = 3.558$, $p = 0.469$ $n = 100$), commuting time per follow up ($H(4) = 3.169$, $p = 0.530$ $n = 100$) and waiting time per follow up ($H(4) = 3.010$, $p = 0.556$ $n = 100$). This signifies that professional background of the respondents had no influence on these variables. That said, duration, commuting and waiting times for the building permit acquisition activities were assessed at six months, 34.5 and 18 hours, respectively. Table 7.35 summarises the details:

Table 7. 35 Building Permit Acquisition Duration and Commuting and Waiting Times

	GEMA	LTR	Total
Duration	5 month	1 month	6 months
Commuting Time	30 hours	4.5hours	34.5 hours
Waiting Time	15hours	3 hours	18 hours

Source: Author's Field Survey - May - November, 2011

It is imperative to point out that, on average, the total duration for meeting the express legal requirements for granting development right, which in this instance are availability of approved sub-division planning scheme, architectural design, formalised land title and building permit can conservatively be assessed at 4.02 years. However, taking out the duration for approved sub-division planning scheme, the duration for the other activities cumulatively is 1.60 years or roughly 19.25 months. This revelation confirms the findings of the extant literature on delays in granting developments rights in SSA (see Nkum and Associates, 2001; Kironde, 2006; Egbu *et al.*, 2008; UN-Habitat, 2009a).

7.6.3 Official Fees, Commuting Cost and Unofficial Fees

The official fee for building permit activities at GEMA was GH¢400.00. This amount was in respect of presentation and processing fees, and the actual building permit fee. The official fee for title clearance at the LTR was GH¢30.00. Therefore, in total the official fee for building permit acquisition activities was GH¢430.00. Table 7.36, however, gives summary descriptive statistics of commuting cost per follow up at the relevant agencies to expedite action on building permit activities. Table 7.37 also gives the mean ranks of responses by profession, on commuting cost per follow up at building permit agencies.

Table 7. 36 Commuting Cost per Follow up at Public Building Permit Agencies (n = 100)

	GEMA (GH¢)	LTR (GH¢)
Mean	21.09	15.42
Median	20.00	12.00
Mode	20.00	10.00
Std. Deviation	9.59	6.960

Source: Author's Field Survey – May – November, 2011

Table 7. 37 Mean Ranks on Commuting Cost per Follow up at Public Building Permit Agencies (n = 100)

Activity	Profession	N	GEMA	LTR
Commuting Cost per Follow on Building Permit Activities at Public Agencies	Real Estate Valuer	22	55.34	52.93
	Real Estate Officer	19	55.26	46.16
	Real Estate/Land Agent	22	48.45	59.80
	Lawyer	16	48.69	46.97
	Architect/Draughtsman	21	44.64	44.84

Source: Author's Field Survey – May – November, 2011

Since responses were not normally distributed, on average, commuting cost per follow up at GEMA and LTR to expedite action on building permit activities were GH¢20.00 and GH¢12.00 respectively (see Table 7.36). From Table 7.37, however, the mean ranks of responses regarding commuting cost per follow up at GEMA were for real estate valuers 55.34, real estate officers 55.26, real estate/land agents 48.45, lawyers 48.69 and architects/draughtsmen 44.84. Those of follow up to LTR were real estate valuers 52.98, real estate officers 46.16, real estate/land agents 59.80, lawyers 46.97 and architects/draughtsmen 44.84. The Kruskal-Wallis test on the differences in mean ranks of responses with regard to the variables were not statistically significant at 5%; commuting cost per follow up at GEMA ($H(4) = 2.239, p = 0.692, n = 100$) and commuting cost per follow up at LTR ($H(4) = 4.029, p = 0.402, n = 100$). This suggests that professional background of the respondents had no effect on commuting cost on follow up to expedite action on building permit activities at the public building permit agencies. Commuting cost for building permit acquisition activities was, however, assessed at GH¢336.00. Table 8.38 gives details on the commuting cost.

Table 7. 38 Commuting Cost associated with Building Permit Acquisition

GEMA GH¢	LTR GH¢	Total GH¢
300.00	36.00	336.00

Source: Author's Field Survey – May – November, 2011

Furthermore, Table 7.39 summarises descriptive statistics on the unofficial fees paid by respondents at the building permit acquisition agencies to facilitate permit activities while Table 7.40 gives details of mean ranks of responses by profession.

Table 7. 39 Unofficial Fee Paid at Public Building Permit Agencies (n = 100)

	GEMA (GH¢)	LTR (GH¢)
Mean	235.95	59.00
Median	200.00	50.00
Mode	200.00	50.00
Std. Deviation	114.07	23.20

Source: Author's Field Survey – May – November, 2011

Table 7. 40 Mean Ranks on Unofficial Fee Paid at Public Building Permit Agencies (n = 100)

Activity	Profession	N	GEMA	LTR
Unofficial Fees for Building Permit Activities at Public Agencies	Real Estate Valuer	22	49.77	48.18
	Real Estate Officer	19	54.24	42.21
	Real Estate/Land Agent	22	34.45	46.93
	Lawyer	16	56.75	64.25
	Architect/Draughtsman	21	59.93	53.69

Source: Author's Field Survey – May – November, 2011

From Table 7.39, on average, the unofficial fee paid at GEMA and LTR to facilitate building permit activities were GH¢200 and GH¢50.00, respectively. The unofficial fee for building permit acquisition activities in total was assessed at GH¢250.00. However, from Table 7.40 the mean ranks of responses regarding unofficial fees paid at GEMA were real estate valuers 49.77, real estate officers 54.24, real estate/land agent 34.45, lawyers 56.75 and architects/draughtsmen 59.93. Those of LTR were real estate valuers 48.18, real estate officers 42.21, real estate/land agents 46.93, lawyers 64.25 and architects/draughtsmen 53.69. The Kruskal-Wallis test on the difference in mean ranks of responses regarding unofficial fee paid at GEMA was statistically significant at 5% ($H(4) = 10.929, p = 0.027, n = 100$) while that paid at LTR was not statistically significant ($H(4) = 6.875, p = 0.143, n = 100$). This means that while professional background of the respondents had an effect on unofficial fee paid at GEMA to facilitate permit activities, it had no effect on that paid at LTR.

7.6.4 Professional Fee and Cost of Time Lag

Table 7.41 displays the descriptive statistics on professional service charge for facilitating acquisition of building permit for a client while Table 7.42 gives mean ranks of the responses on professional service charge by profession.

Table 7. 41 Professional Fee for Building Permit Acquisition (n = 100)

	Professional Fee (GH¢)
Mean	356.50
Median	350.00
Mode	500.00
Std. Deviation	146.10

Source: Author's Field Survey – May – November, 2011

Table 7. 42 Mean Ranks on Professional Fee for Building Permit Acquisition (n = 100)

Activity	Profession	N	Mean Rank
Professional Fee on Building Permit Acquisition	Real Estate Valuer	22	49.43
	Real Estate Officer	19	48.39
	Real Estate/Land Agent	22	29.43
	Lawyer	16	73.09
	Architect/Draughtsman	21	58.38

Source: Author's Field Survey – May – November, 2011

From Table 7.41, on average, professional service fee charge for facilitating acquisition of building permit was GH¢350.00. The mean ranks of responses from Table 7.42 were 49.43 for real estate valuers, 48.39 for real estate officers, 29.43 for real estate/land agents, 73.09 for lawyers and 58.38 for architects/draughtsmen. The Kruskal-Wallis test for the difference in mean ranks of responses was statistically significant at 5% ($H(4) = 23.699$, $p < 0.001$ $n = 100$) signifying that professional background of the respondents had an effect on professional service fee charge for facilitating building permit acquisition.

Table 7. 43 Building Permit Acquisition Cost

Official Fee	Unofficial Fee	Commuting Cost	Professional Fee	Cost of Time Lag	Compounding Factor	Building permit Cost/Property
GH¢	GH¢	GH¢	GH¢	GH¢		GH¢
430.00	250.00	336.00	350.00	173.40	1.130	1,539.40

Source: Author's Field Survey – May – November, 2011

In the light of the foregoing discussions on building permit acquisition activities, the building permit acquisition cost was assessed at GH¢1,539.40 or \$1,026.27. Table 7.43 gives the breakdown of the cost. It is worthy of note that even though cost other than statutory (official fees) for building permit acquisition was substantial, statutory (official) fee was the largest among all the cost constituents accounting for about 28% of the cost.

7.7 ULUP Regime Requirements Compliance Cost (UR_c)

ULUP regime requirements compliance cost per property was assessed by Equation 4.16;

$$UR_c = \sum (\omega_1 + \omega_{2_1} + \dots + \omega_{2_j} + \dots + \omega_5) + \varepsilon$$

This is an amalgam of all the ULUP regime requirements compliance cost per property. This was assessed at GH¢56,087.58 or \$37,391.72. The breakdown of the subject ULUP regime requirements compliance cost per property is given by Table 7.44.

Table 7. 44 Breakdown of ULUP Regime Requirements Compliance Cost per Property

ω_1	ω_{2_1}	ω_{2_2}	ω_{2_3}	ω_{2_4}	ω_{2_5}	ω_3	ω_4	ω_5	UR_c
GH¢	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢	GH¢
545.60	15,410.50	3,385.03	3,875.00	23,824.33	1,835.00	862.00	4,810.72	1,539.40	56,087.58

Source: Author's Field Survey – May – November, 2011

ω_1 = Approved sub-division plan cost, ω_{2_1} = Tarred roads and drains cost, ω_{2_2} = Fixed line telephone cost, ω_{2_3} = Electricity cost, ω_{2_4} = Pipe-borne water cost, ω_{2_5} = Community park cost, ω_3 = Architectural design cost; ω_4 = Title formalisation cost, ω_5 = Building permit acquisition cost, UR_c = ULUP regime requirements' cost

The subject ULUP regime requirements' cost per property is huge relative to the socio-economic conditions of majority of people in the case study country (Table 7.44). Indeed, the cost is about 71.54% of the mean value of standard 3-bedroom planned residential development in the study area (see Chapter 8) or 501 times the monthly minimum wage of the case study country in addition to the time lag. The ULUP regime requirements' costs, however, ranged from a minimum of GH¢ 545.60 to a maximum of GH¢ 23,824.33. Bulk of the entire cost came from pipe-borne water connection, and tarred roads and concrete drains costs, which cumulatively constituted almost 70% of the cost. Cost of connecting pipe-borne water per property was actually the highest; 42.48%. This finding corroborates the evidence of the comparatively high cost of installation of pipe mains in SSA outlined in (Section 7.3). The finding is even more understandable given the topography in the study area and the required interventions needed to ensure continuous supply of pipe-borne water (see Section 7.3.4). The express legal requirements for development right; approved sub-division planning, architectural design, formalised title

and building permit accounted for 13.83% of the cost. Formalised title cost constituted bulk of this cost, which alone accounted for 8.6% of the entire cost. Curiously, about 95% of this cost was accounted for by cost other than statutory (official) official fees.

The experts used in the external validation also observed that generally it is costly to meet ULUP regime requirements that were outlined by the research particularly requirements like tarred roads and drains, pipe-borne water, electricity, formalised title and fixed line telephone facility. They, therefore, acknowledged that cost figures generated from the research were not out of place at all. Given the main findings and results from the external validation it can be said that infrastructure and amenities are major drivers of the subject ULUP regime cost. Perhaps this is one of the reasons why government in the case study country over the years was not able to adequately provide these facilities (see Chapter 3). The implication however is that any effort to reduce planning regime requirements compliance cost must critically look at ways of reducing the cost on these facilities, in particular pipe-borne water, and tarred roads and drains. It also implies that there is a need to examine the continuous suitability of some of these requirements taking cognisance of the urgent needs of residential land users and socio-economic conditions prevalent in the country.

Regarding the cost on express legal requirements for development requirements, though it constituted 13.83% of the entire cost, substantial part of it emanated from cost other than the statutory fees – indirect cost. This was particularly evident in title formalisation cost. Commuting cost and cost of time lag – 25% and about 22% respectively, constituted a large portion of the cost. In any event, cost other than the statutory fees, in the main, are traceable to excessive time lag. In fact, excessive time lag implies more time is required to execute the activities involved in complying with these planning requirements. This means that a lot of follow ups need to be made to expedite action on the activities. These in effect translate into increases in commuting cost, and professional fees due to productive time and energy spent by professionals on the activities. Besides, excessive time lag provides the enabling conditions for payment of unofficial fees, and exacerbates cost of capital. This presupposes that excessive time lag should be critically looked at in any policy discourse to address the weakness of the subject planning regime.

7.8 Chapter Summary

This chapter focused on part two of the survey results, analyses and discussions. It dwelt on ULUP regime requirements' compliance cost. The purpose was to calibrate planning

regime requirements compliance cost for comparison with their benefits. The chapter, therefore, estimated cost per property with regard to requirements, such as sub-division planning scheme, roads and concrete drains, electricity and pipe-borne water connections, community park, title formalisation and building permit acquisition, among others. Having ascertained ULUP regime requirements' compliance cost, it is now appropriate to estimate ULUP regime requirements' compliance benefit for comparison with their cost to address the research question. This forms the subject of the next chapter.

Chapter Eight

Results, Analyses and Discussion: Part Three

8.1 Introduction

Having established ULUP regime requirements' compliance cost in the preceding chapter, the stage is now set to ascertain ULUP regime requirements' compliance benefit and compare them to address the research question and its thesis. This chapter, therefore, presents part three of the survey results, analyses and discussions. It focuses on ULUP regime requirements compliance benefits. The chapter implements ULUP regime requirements' compliance benefit assessment procedures developed in chapter four. It commences with assessment of the individual ULUP regime requirements compliance benefits and then the overall compliance requirements' benefit. Subsequently, the economic incentives' of the subject ULUP regime is evaluated.

8.2 ULUP Regime Requirements Compliance Benefits - Descriptive Statistics

Survey no.3 was used to procure requisite data for the assessment of ULUP regime requirements compliance benefit. A total of 103 respondents were sampled and surveyed. 56.3% (n = 58) were real estate valuers compared to 43.7% (n = 45) of them who were real estate agents. In terms of nature of engagement, 76.7% (n = 79) of the respondents were in private practice while 23.3% (n = 24) were in public office. Given that the survey was designed in a repeated measure manner, professional opinions of value for the specified property (standard 3-bedroom house in the study area; see Chapters 5 and 7) without the ULUP regime requirements were initially solicited from the respondents. This established the basis upon which the values (benefits) of the ULUP regime requirements (the independent variables) were extracted. Table 8.1 gives the overall summary descriptive statistics of the responses obtained. Table 8.2 also outlines the statistics in terms of professional background of the respondents.

Table 8. 1 Overall Descriptive Statistics on Value of Standard 3-Bedroom House without ULUP Regime Requirements (n = 103)

	Opinion of Values (GH¢)
Mean	51,626
Median	50,000
Mode	60,000
Std. Deviation	15,237

Source: Author's Field Survey – May – November, 2011

On average, the overall mean and standard deviation values from the responses obtained were GH¢51,626.00 and GH¢15,237.00 respectively (Table 8.1). From Table 8.2, however, the mean and standard deviation for responses obtained from real estate valuers and real estate agents differed. While the mean and standard deviation values for real estate valuers were GH¢54,388 and GH¢16,513.43, those of real estate agents were GH¢48,067 and GH¢12,725.06, respectively.

Table 8. 2 Group Statistics on Value of Standard 3-Bedroom House without ULUP Regime Requirements (n = 103)

Profession	N	Mean	Std. Deviation	Std. Error Mean
Real Estate Valuer	58	54,388	16,513.42	2,168.32
Real Estate Agent	45	48,067	12,725.06	1,896.94

Source: Author's Field Survey – May – November, 2011

The independent group *t*-test undertaken on the difference between the mean values obtained from real estate valuers and real estate agents revealed a statistically significant difference at 5% ($t = 2.194$, $p = 0.031$ $n = 103$). This means that the difference is more than what could have happened by chance. This provides justification for the rejection of the null hypothesis, which states that there is no statistically significant difference between the mean values reported by real estate valuers and real estate agents. In essence, the result suggests that professional background of the respondents had effect on the reported opinions of value and that real estate valuers substantially valued the specified property without ULUP regime requirements higher than their real estate agent counterparts.

8.2.1 Sub-division Planning Scheme

The summary descriptive statistics relative to values obtained from respondents regarding the specified property where it is located in an area covered by approved sub-division planning scheme albeit without the other ULUP regime requirements is demonstrated by Table 8.3. The overall mean obtained from the responses was GH¢53,655.34. The

standard deviation on the other hand was GH¢15,784.40. Categorising the statistics by professional background (see Table 8.4), real estate valuers reported a mean value of GH¢56,716.00 with a standard deviation of GH¢17,269.06. Conversely, real estate agents reported comparatively a smaller mean value of GH¢49,711.00 with a standard deviation of GH¢12,766.47.

Table 8. 3 Overall Descriptive Statistics on Value of Standard 3-Bedroom House in an Area with Approved Sub-division Planning Scheme (n = 103)

	Opinion of Values (GH¢)
Mean	53,655.34
Median	51,000
Mode	60,000
Std. Deviation	15,784.38

Source: Author's Field Survey – May – November, 2011

Table 8. 4 Group Statistics on Value of Standard 3-Bedroom House in an Area with Approved Sub-division Planning Scheme (n = 103)

Profession	N	Mean	Std. Deviation	Std. Error Mean
Real Estate Valuer	58	56,716	17,269.05	2,267.53
Real Estate Agent	45	49,711	12,766.47	1,903.11

Source: Author's Field Survey – May – November, 2011

The independent group *t*-test on the difference between the mean values reported by real estate valuers and real estate agents was statistically significant at 5% ($t=2.366$, $p=0.020$ $n = 103$). This means the null hypothesis, which suggests that there is no statistically significant difference between the mean values reported by real estate valuers and real estate agents for the specified property if it is situated in an area covered by an approved sub-division planning scheme should be rejected. Thus, professional background of the respondents had effect on the reported opinions of value for the specified property if it was in an area covered by approved sub-division planning scheme. Similarly, the result demonstrates that real estate valuers' opinions of value for the specified property if it is located in an area with approved sub-division planning scheme were significantly higher than those of real estate agents.

8.2.2 Infrastructure and Amenities

Infrastructure and amenities considered for assessment of ULUP regime requirements' compliance benefit were roads and concrete drains, fixed line telephones and electricity. The remainder was pipe-borne water, worship centre, community park, school, and convenience shop (see Chapter 5). Table 8.5 outlines the overall descriptive statistics of responses from the respondents on their opinions of value for the specified property if it

is located in an immediate area where a particular infrastructure or amenity is provided to the exclusion of all the other ULUP regime requirements. The statistics' categorised in terms of professional background of respondents is also displayed by Table 8.6.

The overall reported mean value for the specified property if it is in an immediate area provided with tarred roads and concrete drains was GH¢61,179.61. The standard deviation was GH¢18,151.85 (Table 8.5). The statistics in terms of professional background of respondents per Table 8.6 were; real estate valuers reported a mean value of GH¢64,543 and standard deviation of GH¢19,545.78 compared to real estate agents whose responses generated a mean value of GH¢56,344 and a standard deviation of GH¢15,322.23. The difference in mean values reported by both professional groups by the independent group *t*-test was statistically significant at 5% ($t = 2.241$, $p = 0.027$ $n = 103$). This implies that the null hypothesis, which states that there is no statistically significant difference between the mean values reported by members of the two professional groups, should be rejected. Additionally, the result suggests that professional background of the respondents had influence on opinion of values reported for the specified property where it is in an area provided with tarred roads and concrete drains. The opinions of value reported by real estate valuers as it were with the previous cases were also much higher than those of real estate agents.

Table 8.5 further demonstrates that the overall mean value for the specified property if it is in an immediate area provided with fixed line telephone facility to the exclusion of all the ULUP regime requirements was GH¢52,368.20. The standard deviation was GH¢15,170.56. As regards the statistics by professional background of the respondents, real estate valuers opined a mean value of GH¢55,438 and a standard deviation of GH¢16,189.07 compared to those of real estate agents figures of GH¢48,411 and GH¢12,867.01 (Table 8.6). The difference in mean values reported by the respondents from the two professional backgrounds was statistically significant at 5% ($t = 2.454$, $p = 0.016$ $n = 103$) as per the independent group *t*-test. This signifies that the difference was more than what could have occurred by chance. As such, professional background of the respondents had influence on the opinion of values reported and that real estate valuers opinions of value were much higher than those of real estate agents.

Table 8. 5 Overall Descriptive Statistics on Value of Standard 3-Bedroom House in an Area with Infrastructure and Amenities (n = 103)

	Roads and Concrete Drains (GH¢)	Telephone (GH¢)	Electricity (GH¢)	Pipe-borne Water (GH¢)	Worship Centre (GH¢)	Community Park (GH¢)	School (GH¢)	Convenience Shop (GH¢)
Mean	61,179.61	52,368.20	56,809.22	56,400	51,480.58	52,135.19	52,434.10	52,538.84
Median	60,000	51,000	55,000	55,000	50,000	50,000	50,000	51,000
Mode	50,000	35,000	45,000	65,000	60,000	35,000	60,000	35,000
Std. Deviation	18,151.85	15,170.56	15,417.83	16,022.82	15,236.97	15,203.19	15,214.06	15,444.34

Source: Author's Field Survey – May – November, 2011

Table 8. 6 Group Statistics on Value of Standard 3-Bedroom House in an Area with Infrastructure and Amenities (n = 103)

Infrastructure and Amenities	Profession	N	Mean	Std. Deviation	Standard Error Mean
Roads and Concrete Drains	Real Estate Valuer	58	64,543	19,545.78	2,566.49
	Real Estate Agent	45	56,844	15,322.23	2,284.10
Telephone	Real Estate Valuer	58	55,438	16,189.07	2,125.73
	Real Estate Agent	45	48,411	12,867.02	1,918.10
Electricity	Real Estate Valuer	58	59,592	16,783.65	2,203.80
	Real Estate Agent	45	53,222	12,758.04	1,901.86
Pipe-Borne Water	Real Estate Valuer	58	59,469	17,238.82	2,263.57
	Real Estate Agent	45	52,444	13,481.56	2,009.71
Worship Centre	Real Estate Valuer	58	54,267	16,387.37	2,151.77
	Real Estate Agent	45	47,889	12,792.44	1,906.98
Community Park	Real Estate Valuer	58	55,111	16,394.18	2,152.66
	Real Estate Agent	45	48,300	12,685.62	1,891.06
School	Real Estate Valuer	58	55,357	16,571.99	2,176.01
	Real Estate Agent	45	48,667	12,451.27	1,856.12
Convenience Shop	Real Estate Valuer	58	55,638	16,663.02	2,187.96
	Real Estate Agent	45	48,544	12,817.26	1,910.68

Source: Author's Field Survey – May – November, 2011

Again, the overall mean value for the specified property if it is located in an immediate area provided with electricity to the exclusion of other ULUP regime requirements was GH¢56,809.22. The standard deviation was GH¢15,417.83 (Table 8.5). Table 8.6 also shows that real estate valuers reported a mean value of GH¢59,592 and standard deviation of GH¢16,783.65 relative to those of real estate agents, which were GH¢53,222 for mean and standard deviation of GH¢12,758.04. The independent group *t*-test undertaken revealed that the difference in mean values reported by real estate valuers and real estate agents was also statistically significant at 5% ($t = 2.188$, $p = 0.03$ $n = 103$). This suggests that the null hypothesis, which professes that there is no statistically significant difference between the mean values reported by members of the two professional groups should be rejected. As it were with the previous cases, this signifies that real estate valuers valued the specified property substantially higher if it is in an area provided with electricity compared to their real estate agent counterparts.

Table 8.5 also reveals that the overall mean value for the specified property if it is in an immediate area connected to pipe-borne water from the public mains to the exclusion of the other ULUP regime requirements was GH¢56,400. The standard deviation was GH¢16,022.83. In terms of professional background of respondents, real estate valuers reported a mean value of GH¢59,469 and a standard deviation of GH¢17,238.82. Real estate agents, conversely, reported a mean value of GH¢52,444 and a standard deviation of GH¢13,481.56 (Table 8.6). The independent group *t*-test undertaken on the difference in mean values reported by the two professional groups revealed that the difference is statistically significant at 5% ($t = 2.067$, $p = 0.047$ $n = 103$). This suggests that the null hypothesis, which states that there is no statistically significant difference between the mean values of the two professional groups, should be rejected. Professional background of the respondents, thus, had an effect on the values reported for the specified property if it is in an area connected to pipe-borne water with real estate valuers as usual opining substantially higher values compared to their real estate agent counterparts.

Additionally, Table 8.5 shows that the overall mean value reported for the specified property if it is in an immediate area where there is worship centre to the exclusion of the other ULUP regime requirements was GH¢51,480.58 while the standard deviation was GH¢15,236.97. However, the statistics in terms of professional groups show that the

mean value reported by real estate valuers was GH¢54,267 and the standard deviation, GH¢16,387.37. Real estate agents also reported a mean value of GH¢47,889 and standard deviation of GH¢12,792.44. The difference in mean values as per responses from the two professional groups was again statistically significant at 5% ($t=2.124$, $p=0.041$ $n = 103$) as per the independent group t -test meaning the null hypothesis, which states that there is no statistically significant difference between the means of the groups should be rejected. The result further implies that professional background of the respondents had effect on the values reported for worship centre. However, real estate agents placed much less premium in terms of value for the specified property if it is within an immediate area with worship centre relative to real estate valuers.

Also, the overall mean value for the specified property if it is located in an immediate area provided with community park to the exclusion of the other ULUP regime requirements from Table 8.5 was GH¢52,135.19. The standard deviation was GH¢15,203.19. As regards the statistics by professional groups, Table 8.6 shows that the mean and standard deviation values reported by real estate valuers were GH¢55,111 and GH¢16,394.18 respectively. The real estate agents, conversely, reported a mean value of GH¢48,300 and a standard deviation of GH¢12,685.62. The difference in mean values reported by real estate valuers and real estate agents was also statistically significant at 5% ($t=2.099$, $p=0.043$ $n = 103$) as per the independent group t -test. This provides enough grounds for rejection of the null hypothesis, which states that there is no statistically significant difference between the two professional groups in terms of their mean values. Therefore, real estate valuers in essence valued the specified property much higher than real estate agents if it is located in an immediate area provided with community park.

Besides the foregoing, the overall mean value reported for the specified property by respondents if it is located in an immediate area provided with a school to the exclusion of the other ULUP regime requirements was GH¢52,434.10. The standard deviation was GH¢15,214.06 (Table 8.5). In terms of professional groups, Table 8.6 demonstrates that real estate valuers reported a mean value of GH¢55,357 and a standard deviation of GH¢16,571.10. Those for the real estate agents were GH¢48,667 and GH¢12,451.26, respectively. The difference in mean values reported by real estate valuers and real estate agents as well was statistically significant at 5% ($t=2.057$, $p=0.047$ $n = 103$) as per the independent group t -test. Thus, real estate valuers again placed substantially much value on the specified property if it is in an immediate area provided with a school compared to real estate agents.

Finally, Table 8.5 shows that the overall mean value reported for the specified property if it is located within an immediate area provided with convenience shop to the exclusion of the other ULUP regime requirements was GH¢52,538.83. The standard deviation was GH¢15,444.35. From professional groups point of view, Table 8.6 reveals that the mean value reported by real estate valuers was GH¢55,638 with standard deviation of GH¢16,663.01. The real estate agents, conversely, reported a mean value of GH¢48,544 and a standard deviation of GH¢12,817.26. The independent group *t*-test undertaken again revealed that the difference in mean values reported by the two professional groups was statistically significant at 5% ($t=2.077$, $p=0.045$ $n = 103$). This gives ample evidence for rejection of the null hypothesis, which states that there is no statistically significant difference between the mean values of the groups. Thus, professional background of the respondents had influence on the reported values for the specified property if it is located in an immediate area provided with convenience shops with real estate valuers as usual giving much higher values.

8.2.3 Architectural Design

The overall summary descriptive statistics' for value of the specified property if it is covered by architectural design to the exclusion of the other ULUP regime requirements is given by Table 8.7. The statistics' by professional background of the respondents is also given by Table 8.8. The overall mean and standard deviation values for the specified property reported by the respondents if it is covered by architectural design were GH¢52,415.10 and GH¢15,489.50, respectively (Table 8.7).

Table 8. 7 Overall Descriptive Statistics on Value of Standard 3-Bedroom House if it is Covered by Architectural Design (n = 103)

	Opinion of Values (GH¢)
Mean	52,415.09
Median	51,000
Mode	60,000
Std. Deviation	15,489.50

Source: Author's Field Survey – May – November, 2011

Table 8. 8 Group Statistics on Value of Standard 3-Bedroom House if it is Covered by Architectural Design (n = 103)

Profession	N	Mean	Std. Deviation	Std. Error Mean
Real Estate Valuer	58	55,168	17,089.49	2,243.96
Real Estate Agent	45	48,867	12,449.17	1,855.81

Source: Author's Field Survey – May – November, 2011

The professional group statistics also show that the mean value obtained from responses by real estate valuers was GH¢55,168 with standard deviation of GH¢17,089.49. Those of the real estate agents were GH¢48,867 and GH¢12,449.17 respectively (Table 8.8). The difference in mean values reported by both professional groups per the independent group *t*-test was statistically significant at 5% ($t=2.164$, $p=0.033$ $n = 103$) meaning the null hypothesis, which professes that there is no statistically significant difference in the mean values reported by both groups should be rejected. This further implies that professional background of the respondents had effect on values reported for the specified property if it is covered by architectural design with real estate valuers' opinions of value being significantly higher than those of real estate agents.

8.2.4 Formalised Title

Table 8.9 gives the overall summary descriptive statistics for the value of the specified property if it is covered by a formalised title to the exclusion of the other ULUP regime requirements. Table 8.10 also breaks down the statistics in terms of professional background of the respondents. The overall mean value reported for the specified property if it is covered by a formalised title was GH¢56,822.33. The reported standard deviation values was also GH¢15,756.31 (Table 8.9). The mean value reported by real estate valuers for the specified property if it is covered by a formalised title was GH¢59,702 while the standard deviation was GH¢17,384.97. Conversely, the mean value reported by real estate agents was GH¢53,111 with a standard deviation value of GH¢12,608.11 (Table 8.10). The difference in mean values reported by the two professional groups was also statistically significant at 5% ($t=2.229$, $p=0.028$ $n = 103$) as per the independent group *t*-test. This, therefore, provides enough justification for the rejection of the null hypothesis, which states that there is no statistically significant difference between the mean values of the two professional groups. It again implies that professional background of the respondents had effect on the values reported for the specified property if it is covered by formalised title with real estate valuers' opinions of value being substantially higher than those of real estate agents.

Table 8. 9 Overall Descriptive Statistics on Value of Standard 3-Bedroom House if it is Covered by Formalised Title (n = 103)

	Opinion of Values (GH¢)
Mean	56,822.33
Median	57,000.00
Mode	40,000
Std. Deviation	15,756.31

Source: Author's Field Survey – May – November, 2011

Table 8. 10 Group Statistics on Value of Standard 3-Bedroom House if it is Covered by Formalised Title (n = 103)

Profession	N	Mean	Std. Deviation	Std. Error Mean
Real Estate Valuer	58	59,702	17,384.98	2,282.76
Real Estate Agent	45	53,111	12,608.12	1,879.51

Source: Author's Field Survey – May – November, 2011

8.2.5 Building Permit

The overall summary descriptive statistics and their breakdown by professional background of respondents for the value of the specified property if it is covered by building permit to the exclusion of the other ULUP regime requirements are given by Tables 8.11 and 8.12 respectively.

Table 8. 11 Overall Descriptive Statistics on Value of Standard 3-Bedroom House if it is Covered by Building Permit (n = 103)

	Opinion of Values (GH¢)
Mean	52,437.86
Median	51,000
Mode	35,000
Std. Deviation	14,956.17

Source: Author's Field Survey – May – November, 2011

Table 8. 12 Group Statistics on Value of Standard 3-Bedroom House if it is Covered by Building Permit (n = 103)

Profession	N	Mean	Std. Deviation	Std. Error Mean
Real Estate Valuer	58	55,122	16,319.10	2142.80
Real Estate Agent	45	48,978	12,320.97	1836.70

Source: Author's Field Survey – May – November, 2011

The overall reported mean value for the specified property if it is covered by building permit was GH¢52,437.86. The standard deviation value was also GH¢14,956.17 (Table 8.11). Table 8.12 also shows that the mean value for responses given by real estate valuers was GH¢55,122 with standard deviation of GH¢16,319.10. With regard to real estate

agents, the mean value for the responses obtained was GH¢48,978 with standard deviation value of GH¢12,320.97. The difference in mean values reported by both professional groups per the independent group *t*-test was statistically significant at 5% ($t = 2.177, p = 0.032, n = 103$) meaning that the null hypothesis, which states that there is no statistically significant difference between the mean values for the two professional groups should be rejected. Thus, real estate valuers' opinions of value for the specified property if it is covered by building permit were substantially higher than those of real estate agents.

8.2.6 All the ULUP Regime Requirements

The overall summary descriptive statistics and their break down in terms of professional background of the respondents for the value of the specified property if it is associated with all the ULUP regime requirements are outlined by Tables 8.13 and 8.14 respectively.

Table 8. 13 Overall Descriptive Statistics on Value of Standard 3-Bedroom House if it is Associated with all the ULUP Requirements (n = 103)

	Opinion of Values (GH¢)
Mean	78,402.91
Median	72,000
Mode	70,000
Std. Deviation	24,532.69

Source: Author's Field Survey – May – November, 2011

Table 8. 14 Group Statistics on Value of Standard 3-Bedroom House if it is Associated with all the ULUP Requirements (n = 103)

Profession	N	Mean	Std. Deviation	Std. Error Mean
Real Estate Valuer	58	81,095	26,148.10	3433.41
Real Estate Agent	45	74,933	22,081.87	3291.77

Source: Author's Field Survey – May – November, 2011

The overall mean value for the specified property if it is associated with all the ULUP regime requirements was GH¢78,402.91, while the standard deviation was GH¢24,532.69 (Table 8.13). In terms of the group statistics, the mean value obtained from responses by real estate valuers was GH¢81,095 with a standard deviation of GH¢26,148.10 compared to those of real estate agents figures of GH¢74,933 mean value and standard deviation value of GH¢22,081.87. The difference in mean values of real estate valuers and real estate agents regarding the specified property which has met all the ULUP regime requirements was, however, not statistically significant at 5% ($t = 1.295, p = 0.198, n = 103$) as per the independent group *t*-test. This implies that the alternative

hypothesis, which suggests that there is a statistically significant difference between the mean values of the two professional groups, should be rejected. Further, the finding signifies that the opinion of values of the two professional groups with respect to the specified property if it is associated with all the ULUP regime requirements do not differ substantially.

Table 8.15, however, summarises the statistics on the opinion of values for the specified property without the planning requirements, with particular individual planning requirements, and with all the planning requirements.

Table 8. 15 Summary Statistics on Values of Standard 3-Bedroom House Based on the ULUP Requirements (n = 103)

ULUP Requirements	Mean (GH¢)	Median (GH¢)	Standard Deviation (GH¢)
Without all planning Requirements	51,626.00	50,000.00	15,237.00
Only Sub-division planning Scheme	53,655.34	51,000.00	15,784.38
Only Tarred Road & Concrete Drains	61,179.61	60,000.00	18,151.85
Only Fixed Line Telephone Facility	52,368.20	51,000.00	15,170.56
Only Electricity	56,809.22	55,000.00	15,417.83
Only Pipe-borne Water	56,400.00	55,000.00	16,022.82
Only Worship Centre	51,480.58	50,000.00	15,236.97
Only Community Park	52,135.19	50,000.00	15,203.19
Only a School	52,434.10	50,000.00	15,214.06
Only Convenience Shop	52,538.84	51,000.00	15,444.34
Only Architectural Design	52,415.09	51,000.00	15,489.50
Only Formalised Title	56,822.33	57,000.00	15,756.31
Only Building Permit	52,437.86	51,000.00	14,956.17
With all the Planning Requirements	78,402.91	72,000.00	24,532.69

Source: Author's Field Survey – May – November, 2011

The results and their analyses, however, demonstrate that differences in all the mean values reported by real estate valuers and real estate agents differed substantially except those of the specified property if it is associated with or covered by all the ULUP regime requirements. The direction of the differences also showed that the values reported by real estate valuers generally were higher than those of real estate agents. The possible reasons for this revelation may be the general clientele base of most of the real estate agency practitioners in the case study country who are, in the main, comparatively not wealthy as those of real estate valuers. Consequently, bids usually submitted for properties and prices concluded on transactions by these clients, which might have informed opinions of the surveyed real estate agents are usually not as high as those of the real estate valuers, hence the disparity in the reported opinions of value. That aside, another interesting finding from the results is that apart from opinions of values submitted for

tarred roads and concrete drains, electricity, pipe-borne water and formalised title, adverse trends of opinions of value for the specified property if it is associated with the other requirements were observed in comparison with their overall mean opinions of value. This occurred mostly with opinions from real estate agents. This, however, reflects the lack of consensus on the value (benefit) of these requirements and further reinforces insights from the conceptual framework on the subjective importance individual land users attach to these requirements.

8.3 Determination of ULUP Regime Requirements Compliance Benefits (UR_b)

ULUP regime requirements' compliance benefit was assessed by both Equations 4.18 and 4.19; $UR_b = \sum(\beta_2 + \beta_3 + \dots + \beta_n) + \varepsilon$ and $UR_b = \mu_{A2} - \mu_{A1}$. As a prelude to activating Equation 4.19, there was a need to implement Equation 4.17; $\rho\chi = \beta_0 + \beta_2b + \beta_3c + \dots + \beta_np + \varepsilon$, which is an OLS regression, to determine the individual ULUP regime requirements benefits. What is noteworthy is that apart from ensuring determination of the overall ULUP regime requirements' compliance benefit, the research was also very much interested in the individual planning requirements' benefits. However, as explained in (Chapter 5), responses given by the respondents were treated as observations. As such, a total number of 1,339 observations were arrived at. This was used by the OLS regression estimator to assess the ULUP regime requirements compliance benefits.

The behaviour of the OLS regression model is given by Table 8.16 while Table 8.17 summarises the results from the model.

Table 8. 16 The OLS Regression Model Statistics on Benefit of Individual ULUP Regime Requirements

Source	SS	df	MS	Number of obs	=	1339
				F(12, 1326)	=	3.54
Model	1.0397e+10	12	866381757	Prob > F	=	0.00
Residual	3.2427e+11	1326	244551002	R-squared	=	0.03
				Adj R-squared	=	0.02
Total	3.3467e+11	1338	250127959	Root MSE	=	15638

Dependent Variable: Opinion of Values; Independent variable: the rest of the variables in Table 8.16

Source: Author's Field Survey – May – November, 2011

The regression model statistics from Table 8.16 reveals an F -value of 3.54, which was highly significant statistically at 5%; ($F=3.54$; $p<0.001$ $n = 1339$). The R^2 and adjusted R^2 of

the model also were 0.031 and 0.022 respectively. That said, it is a common knowledge that OLS regression standard errors are unbiased when residuals are independent and identically distributed (see Kerlinger and Lee, 2000; Field, 2005; Petersen, 2008; Cheah, 2009).

In a repetitive measure design, such as the present case where the same respondents were used to elicit the controlled and experiment values regarding all the individual ULUP regime requirements, the assumption that observations need to be independent and identically distributed is violated. This means that the standard errors reported in Table 8.17 are biased and must be corrected. The appropriate approach usually found in the literature to address these biased standard errors is to adjust them through clustering by respondents (see Petersen, 2008; Cheah, 2009). Indeed, Hedges (2007) makes the point that such situations can result, among others, in misleading effect size and incorrect estimates, and, therefore, the appropriate way to address them is to right from the outset cluster the standard errors. It is also observed that in addition to worship centre, the lower bound of the confidence interval for all the variables apart from tarred roads and concrete drains, electricity, pipe-borne water and formalised title were negative. The possible reason, as noted previously, is the adverse trend observed for some of the opinions of value submitted by respondents if these variables are associated with the specified property compared to their overall mean opinions of value.

Table 8. 17 Test Results from the OLS Regression Model on Benefit of Individual ULUP Regime Requirements (n = 1339)

Variables	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
Scheme	2029.12	2179.12	0.93	0.35	-2245.77 6304.03
Concreted road	9553.39	2179.12	4.38	0.00	5278.5 13828.3
Telephone	741.99	2179.12	0.34	0.73	-3532.91 5016.89
Electricity	5183.01	2179.12	2.38	0.02	908.11 9457.91
Water	4773.78	2179.12	2.19	0.03	498.89 9048.69
Community Park	508.98	2179.12	0.23	0.82	-3765.92 4783.88
Worship centre	-145.63	2179.12	-0.07	0.95	-4420.51 4129.27
School	807.88	2179.12	0.37	0.71	-3467.02 5082.78
Convenience	912.62	2179.12	0.42	0.68	-3362.27 5187.52
Designs	788.88	2179.12	0.36	0.72	-3486.02 5063.78
Title	5196.11	2179.12	2.38	0.02	921.22 9471.01
Building permit	811.65	2179.12	0.37	0.71	-3463.25 5086.54
_cons	51626.21	1540.87	33.50	0.00	48603.4 54649.02

Source: Author's Field Survey - May - November, 2011

Based on the clustering, the model's overall F -value changed to 33.05 and was highly significant statistically at 5%; ($F=33.05$; $p<0.001$ $n = 1339$) meaning the prediction power

of the model even improved further. The negative lower bound of the confidence intervals except that of the worship centre changed to positive (see 8.18). However, the R^2 of the model, which demonstrates the goodness of fit of the model, remained unchanged. Summary of the test results of the model following the clustering are also given by Table 8.18. The model's R^2 being 0.031 signifies that the ULUP regime compliance requirements explain only 3.1% of the value of the specified property. That said, this result must be put in context. First of all, the dependent variable (property value) used in the model at each stage was a cumulative value of the controlled value and the percentage change in value that results from the specified property's association with particular planning requirement, but not full value of the property. Besides, there were series of transformation with the data to make them stationary. Under such circumstances, it is common for the R^2 to be low (see Alm *et al.* (2011) who reported R^2 s of between 0.001 and 0.017). Additionally, since the respondents were professionals trained to interpret the property market regarding property values, their opinions were not expected to vary much. This was the case for all the major determinants of the value reported for the specified property in the model. This signifies limited variation and hence the small R^2 (see Campbell and Taskler, 2002).

That aside, Table 8.18 also shows that following the clustering, standard errors of the variables were reduced and their t -values improved. The coefficients of all the ULUP regime requirements (variables) except worship centre, which signify their value contributions to the specified property, also became statistically significant at 5%.

Table 8. 18 Test Results from the OLS Regression Model on Individual ULUP Regime Requirements Benefit upon Clustering of Standard Errors (n = 1339)

Variables	Coef.	Robust Std. Err.	t	P>t	[95% Conf. Interval]
Scheme	2029.13	514.01	3.95	0.000	1009.58 3048.67
Concreted ^r d	9553.40	758.07	12.60	0.000	8049.76 11057.04
Telephone	741.99	167.43	4.43	0.000	409.89 1074.08
Electricity	5183.01	364.37	14.22	0.000	4460.27 5905.75
Water	4773.79	343.99	13.88	0.000	4091.48 5456.09
Community Park	508.98	112.55	4.52	0.000	285.73 732.23
Worshipcen ^e	-145.63	107.72	-1.35	0.179	-359.29 68.03
School	807.88	163.74	4.93	0.000	483.09 1132.67
Convenienc ^b	912.62	173.99	5.25	0.000	567.50 1257.74
Designs	788.88	190.81	4.13	0.000	410.40 1167.36
Title	5196.11	376.33	13.81	0.000	4449.66 5942.57
Buildingpe ^t	811.65	163.84	4.95	0.000	486.66 1136.64
_cons	51626.21	1508.12	34.23	0.000	48634.86 54617.57

Source: Author's Field Survey – May – November, 2011

In general, these results buttress the theoretical arguments and some empirical studies in the developed world that ULUP has benefits (see Fischel, 1990; Bertaud and Malpezzi, 2001; Cheshire and Sheppard, 2002, 2004; Nelson *et al.*, 2004; Ihlanfeldt, 2009). What is even more compelling is that the approach adopted in this research to extract benefits of ULUP in terms of appreciation in property values circumvented the intriguing issue of whether or not ULUP benefits result from ULUP constraints or amenity (see Quigley and Rosenthal, 2005; Ihlanfeldt, 2007).

8.3.1 Individual ULUP Requirements Value (Benefits)

From the individual ULUP regime requirements perspective, Table 8.18 shows that approved sub-division planning scheme makes a contribution of GH¢2,029.13 ($t=3.95$; $p<0.001$ $n = 1339$) to the value of the specified property. Though there appears to be no precedent work on the contribution of approved sub-division planning scheme to property values in the case study country, Asabere (1981) using the hedonic price model established that government zoning appreciates land values in Accra albeit not estimated in monetary terms. Given that zoning begets sub-division planning scheme, it can be surmised that the result is consistent with Asabere (1981) observation. Further, this revelation also supports the general acknowledgement in the case study country that where an area is covered by an approved sub-division planning scheme, property values in the area tend to appreciate all things being equal.

Table 8.18 also shows that infrastructural facilities; tarred roads and concrete drains, fixed line telephone, electricity and pipe-borne water connection to a residential neighbourhood contribute greatly to appreciation in property values. As per the specified property, tarred road and concrete drains contributed GH¢9,553.40 ($t=12.60$; $p<0.001$ $n = 1339$), the highest of all the contributions while fixed line telephone, electricity and pipe-borne water contributed GH¢742.00 ($t=4.43$; $p<0.001$ $n = 1339$), GH¢5,183.01 ($t=14.22$; $p<0.001$ $n = 1339$), and GH¢4,773.80 ($t=13.88$; $p<0.001$ $n = 1339$), respectively. These results again were consistent with findings from Asabere (1981) who combined these facilities as site service and established that they have the tendency of increasing land values in Accra. Arimah (1992) also using the hedonic price model established a similar relationship between these infrastructural facilities and residential properties values in the city of Ibadan, Nigeria. More recent studies, such as Anim-Odame *et al.* (2006) and Anim-Odame (2008) in the case study country which collapsed these variables into location again established similar relationship.

What is, however, different with this present research is its disaggregation of the contribution of these variables to property values and their extent of value in monetary terms. Beyond that, findings from similar studies in the developed world, such as UK (see Cheshire and Sheppard, 2002, 2004) and USA (see Sirmans *et al.*, 2005) also buttress the positive contribution of infrastructural facilities to residential property values. That said, the relatively high valuation of roads and concrete drains was expected and emphasises the premium placed on accessibility in real estate valuation theory and practice regarding value determination (Shapiro *et al.*, 2009). Conversely, the low valuation of pipe-borne water compared to electricity, for example, was not anticipated. The possible reasons may be easy accessibility to water in rubber sachets and the proliferation of residential property owners constructing bore holes and water-wells in their homes.

Similarly, the findings from the present research generally are in tandem with the above-mentioned earlier studies with regard to social amenities, such as school and convenience shops to the extent that they appreciate residential property values. However, the value contributions of such amenities in the case study country are rarely analysed on individual basis. Besides, since community parks are hardly encountered in residential neighbourhoods, these analyses also tend to overlook them. The present research as per Table 8.18, however, reveals that the value of community park regarding the specified property was GH¢509.00 ($t=4.52$; $p<0.001$ $n = 1339$), the least valued ULUP regime requirement apart from worship centre while those of school and convenience shop were GH¢807.88 ($t=4.93$; $p<0.001$ $n = 1339$) and GH¢912.62 ($t=5.25$; $p<0.001$ $n = 1339$), respectively. The relative low valuation of community park was expected since it is not the usual norm in the case study country for visiting community park as a source of recreation or preserving greenbelts compared to the developed world like UK and USA. Perhaps people who have sentiments for this requirement are those within the elite class. This may possibly account for the massive encroachments of earmarked greenbelts sites in urban areas in the case study country. Even the relative low valuation of schools compared to convenience shop was not surprising at all and may be one of the possible reasons again for encroachment of school sites in the study area (see Chapter 6).

Though the result on worship centre was not statistically significant, it was negative; GH¢(-145.63) ($t=-1.45$; $p=0.179$ $n = 1339$) (see Table 8.18). This result was not expected considering the religious attachment of Ghanaians. However, the possible reason for this result may be the general nature of religious activities in the case study country, which turn to generate a lot of noise and the observation that people are not necessarily deterred

from traveling over a long distance to their favourite place of worship. Beyond the foregoing, an issue arises as to whether or not the result should be taken into account in the economic analysis considering it was not statistically significant. This research takes the position that, from economic perspective and to the extent that the result causes depreciation in resource value it needs to be factored in the ULUP regime requirements benefit assessment.

With regard to architectural design, Table 8.18 reveals that its value contribution as per the specified property was GH¢788.88 ($t=4.13$; $p<0.001$ $n = 1339$) while that of formalised title was GH¢5,196.12 ($t=13.81$; $p<0.001$ $n = 1339$). Comparatively, much was not expected in terms of value contribution of architectural design. This is because real estate valuation is usually undertaken “rebus sic santibus”. That is, as the property stands and not the architectural design behind, is what matters. The value of formalised title was the most valued ULUP regime requirement apart from road and concrete drains. The possible reason for the value of formalised title is that the value of real estate, in the main, stems from good and perfect title and not the brick and mortar. Consequently, with formalised title, the value of real estate is generally expected to appreciate especially within jurisdictions where title formalisation is low and against the backdrop of rising land ownership conflicts. However, comparing the result on formalised title with Hammond (2006) reveals substantial disparity. Hammond (2006, Chapter 8) estimated the value of formalised title to land as per both LC and LTR processes within policy zone 2, which covered family lands like the present study, at GH¢2,300.00. The disparity is about GH¢2,900.00. This disparity may result from effluxion of time and positive changes in property values, the fact that the value of formalised title with regard to the present study was extracted from fully developed residential property not land as in the case of Hammond (2006) and differences in locations, among others which may account for changes in value dynamics.

Lastly, Table 8.18 depicts that the value of building permit with respect to the specified property was GH¢811.65 ($t=4.5$; $p<0.001$ $n = 1339$). The higher valuation of building permit compared to architectural design, school and convenience shop may be as a result of anticipation of the consequences of non-compliance with the requirement and the common practice of its usage by property owners to support claims of land ownership (see Boamah *et al.*, 2012) in an environment where land ownership conflict is rife.

8.3.2 Overall Benefit of ULUP Regime Requirements'

There were two possible approaches for evaluation of the overall benefit. By adding the individual planning requirements benefits (values), the overall ULUP regime requirements' benefit was arrived at. Table 8.19 summarises details on the overall benefit of ULUP regime requirements'. The benefit of ULUP regime requirements' per property (UR_b) was assessed at GH¢31,161.85 or \$20,774.57 by this first approach.

The second approach focused on the “synergy” benefit impact of ULUP regime requirements' using the opinion of values reported by respondents on the specified property if it is with all the ULUP requirements on the one hand and if it is without all of them on the other hand. This was assessed by the paired sample *t*-test. Table 8.20 reports the results from the paired sample *t*-test. The pair sampled difference in means was GH¢26,776.7, while its standard deviation was GH¢16,653.88 (Table 8.20). Thus, the difference in opinions of value reported by respondents as regards the value of a standard 3-bedroom residential property in the study area if it is associated with and covered by all the ULUP regime requirements and vice-versa was GH¢26,776.7. This difference as per Table 8.20 was statistically significant at 5% ($t=16.318$; $p<0.001$ $n=103$). This means that the difference was more than what could have happened by chance and that the null hypothesis, which professes that there is no statistically significant difference between the paired samples means should be rejected.

Table 8. 19 Overall Details on Individual ULUP Regime Requirements Benefit

Head of Benefit	Benefit (GH¢)	% of Overall Benefit
Approved Sub-division Planning Scheme	2,029.13	6.51
Tarred Roads and Concrete Drains	9,553.40	30.65
Fixed Line Telephone	742.00	2.38
Electricity	5,183.00	16.63
Pipe-borne Water	4,773.80	15.31
Community Park	509.00	1.63
Worship Centre	-145.63	-
School	807.88	2.59
Convenience Shop	912.62	2.92
Architectural Design	788.88	2.53
Formalised Title	5,196.12	16.67
Building Permit	811.65	2.60
ULUP Regime Requirements Benefit	31,161.85	

Source: Author's Field Survey - May - November, 2011

In practical terms, the result means that ULUP regime requirements' generate benefit. The benefit per the specified property (UR_b) by this second approach is GH¢26,776.7 or

\$17,851.13. This result, therefore, buttresses the earlier result generated by the first approach, and indeed many theoretical and empirical works that have argued that ULUP has significant benefit (Fischel, 1990; Lai *et al.*, 2007). However, comparing the result from this approach to the first approach reveals a variance of GH¢4,385.15 or \$2,923.43. The comparatively lower benefit generated from the second approach is as a result of the “synergy” effect. This implies that the value impact of the combined ULUP regime requirements’ is not as potent as when they are valued individually at least in the context of this research meaning some or all the ULUP regime requirements experience reduction in value when they are combined. This revelation is not new in valuation practice especially in business valuations relating to prospective mergers and acquisitions (see Seth *et al.*, 2000; Ghauri and Buckley, 2003). In fact, Hammond (2006: p223-224) demonstrates that the “synergy” impact of title formalisation to land by both LC and LTR procedures is proportionately not as potent as the individual impact in the case of formalisation by LC procedure.

The overall benefit derived from the paired sampled *t*-test; approach two was adopted as the subject ULUP regime benefit. This was adopted because the main focus of the research was among others things to determine the benefit of the subject ULUP regime requirements together. Thus, the idea was to calibrate the benefit of ULUP regime requirements’ from a planned development. Besides, findings from the difference in mean values reported by the two professional groups of respondents; real estate valuers and real estate agents with respect to where the specified property is associated or has all the ULUP regime requirements reveals a somewhat consensus in opinion of value. This, thus, makes it more amenable to dwell on such an opinion of value for further analysis as regards the overall cost and benefit of the subject ULUP regime.

Findings from the external validation also reinforced the main findings that the planning regime requirements’ generate benefit in terms of property value appreciation. However, on individual basis the planning and urban development experts reported that tarred roads and concrete drains, formalised title, electricity and pipe-borne water are the most contributors of the benefit. This further gives credence to the main research findings. On the basis of the foregoing, it can be surmised that much premium is placed on these planning requirements in the study area.

Table 8. 20 Result from Paired Samples t-test on Overall ULUP Regime Benefit (n = 103)

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	Opinion of value of standard 3-bedroom residential property if it is in an area with and covered by all the ULUP regime requirements in Kwabenya - Opinion of value of a standard 3-bedroom residential property in Kwabenya if it is without all ULUP regime requirements	2.67767E4	16653.88	1640.96	23521.87	30031.52595	16.32	102	.00

Source: Author's Field Survey - May - November, 2011

8.4 Economic Incentives/Disincentives

Insights from the human action conceptual framework suggest that to ensure compliance with planning requirements, planning systems should provide incentives to impel property owners to act in compliance (Chapter 2). A prior requirement for such incentives is for property owners to have knowledge of planning requirements and perceive planning as relevant to the achievement of their ends. However, a large volume of literature suggests that lack of awareness of planning requirements among property owners/land users is a major determinant of the low compliance with the requirements in SSA (see Payne and Majale, 2004; Kironde, 2006; UN-Habitat, 2009; Adjei-Mensah, 2010). This study based on empirical evidence from the study site demonstrates in its chapter six that despite the high level of awareness of title formalisation and building permit requirements and the usefulness of such awareness to ensuring compliance, it was not a strong predictor of compliance with the requirements. This finding reinforces few studies in the sub-region such as Arimah and Adeagbo (2000) in Ibadan, Nigeria and Boamah *et al.* (2012) in Northern Ghana, which reported low compliance with planning requirements despite high level of their awareness among land users. While this finding gives credence to the framework in terms of property owners' awareness of planning requirements being a subsidiary driver of compliance compared to prime incentive, the possible implication is that too much emphasis should not be placed on awareness of planning requirements among property owners at least in the study site to ensure compliance with the requirements.

The literature discussions in (Chapter 3) established that planning in SSA is not perceived by majority of the people in the sub-region to be relevant and to that extent compliance with its requirements is expected to be low. Indeed, it is argued that European colonialists used planning as a means to exploit the resources of the sub-region (Rakodi, 2006a). Under post-colonial governments, planning is also seen as a tool to manipulate majority of the people and control resources in the sub-region by the few elite and their cronies. Therefore, planning is not seen as relevant to socio-economic development by most people in the sub-region (Rakodi, 2001). The empirical evidence in (Chapter 6) shows that title formalisation was perceived as relevant, but it was not a strong predictor of compliance with the title formalisation requirement. Similar to awareness of planning requirements, this finding supports the human action framework to the extent that perceived relevance of title formalisation is a subsidiary determinant of compliance with

title formalisation requirement. The empirical evidence also demonstrates that perception of planning in Ghana as relevant was not a strong predictor of compliance with the building permit requirement. However, majority of the respondents perceived planning in Ghana as not relevant. This finding also buttresses analyses by studies, such as Payne and Majale (2004), Rakodi (2006b) and Brown (2012) to the point that planning systems in SSA do not: provide developable lands; recognise the informal sector, which is the source of livelihood for majority of the people in the sub-region; and allow property owners to put their homes into compatible multiple uses to earn additional income. This further affirms the notion that SSA planning systems hinder socio-economic development. More importantly, since perceived relevance of planning is a requirement within the human action conceptual framework though it is subsidiary to prime incentive, there is a need to make the subject planning regime more relevant through addressing the socio-economic development issues identified by the literature.

The incentive proposed by the human action conceptual framework as the main driver of compliance with planning requirements is the prime incentive – economic incentives (Chapter 2). Based on stipulations in chapter four, to evaluate the economic incentives of the subject ULUP regime, the ULUP regime requirements' compliance cost per property determined in chapter seven must be compared with its benefit herein determined. Equation 4.20; $P_i/P_d = UR_b - UR_c$ addresses this task. Table 8.21 summarises the ULUP regime requirements compliance cost and benefit of the individual ULUP regime requirements whose cost and benefit were both examined as well as the entire ULUP regime requirements' compliance cost and benefit.

Table 8. 21 ULUP Regime Requirements Cost and Benefit

Requirement	Benefit (GH¢)	Cost (GH¢)	Variance (GH¢)	B/C Ratio
Sub-division Planning Scheme	2,029.13	545.60	1,483.53	3.72
Tarred Roads and Drains	9,553.40	15,410.50	-5,857.10	0.62
Fixed Line Telephone	742.00	3,385.03	-2,643.03	0.22
Electricity	5,183.00	3,875.00	1,308.00	1.34
Pipe-borne Water	4,773.80	23,824.33	-19,050.53	0.20
Community Park	509.00	1,835.00	-1,326.00	0.28
Architectural Design	788.88	862.00	-73.12	0.92
Formalised Title	5,196.12	4,810.72	385.40	1.08
Building Permit	811.65	1,539.40	-727.75	0.53
ULUP Regime Requirements (Benefit Assessment -Approach 1)	31,161.85	56,087.18	-24,925.33	0.54
ULUP Regime Requirements (Benefit Assessment -Approach 2)	26,776.70	56,087.18	-29,310.48	0.48

Source: Author's Field Survey – May – November, 2011

By the first approach to determine the ULUP regime requirements' compliance benefit, the subject ULUP regime generates a prime disincentive of GH¢24,925.33 or \$16,616.89. However, since the subject ULUP regime requirements' compliance benefit determined by the second approach is seen as more appropriate it can be discerned from Table 8.21 that the subject ULUP regime generates prime disincentive of GH¢29,310.48 or \$19,540.32. This disincentive constitutes about 37.4% of the mean value of a typical standard 3-bedroom planned residential development in the study area or 262 times of the monthly minimum wage in Ghana. The disincentive is even exacerbated by extreme time lag, for example, 12.25 months for title formalisation and six months for building permit acquisition as revealed by this research (see Chapter 7). Thus, there is enough evidence to support the thesis that the subject ULUP regime does not provide economic incentives for residential property owners.

That said, further examination of the individual ULUP regime requirements cost and benefit from Table 8.21 reveals that approved sub-division planning scheme, electricity and formalised title recorded positive variance of GH¢1,483.53; GH¢1,308; and GH¢385.40, respectively. This revelation in addition to findings and discussions in chapter six regarding title formalisation which established, *inter alia*, that 56% of property owners surveyed were aware of the title formalisation requirement while 87% perceived title formalisation as relevant, makes it unclear why earlier studies, such as Larbi (1994) and LAP (GoG, 2003, 2007) have attributed low title formalisation rate to the lack of awareness of the title formalisation requirement, and poor perception of the relevance of title formalisation among property/land owners. Consequently, it appears the operation of LAP and its related sub-project of LUMP on the notion of lack of awareness of ULUP regime requirements among property/landowners as a major problem is misplaced.

Conversely, the revelation also raises an issue as to why significant number of urban developments in the case study country are not covered by approved sub-division planning schemes and title to these developments are not formalised. This has been explained in chapter three and also acknowledged somewhat in chapter four. Insights from the conceptual framework profess that without means or resources action cannot be instituted even though awareness and conception of means as well as prime incentive may be ascertained. However, it is known that about 30% of Ghanaians live under the poverty line (GH¢370.89 or \$403.14 per annum, GSS, 2007; see also World Bank, 2012b) (Cavalcanti, 2009) with rising levels of urban poverty (GSS, 2007). Besides, the country's daily minimum wage is GH¢3.73 (\$2.49) (see www.ModernGhana.com, 2012). This

minimum wage is even hardly complied with in certain sectors of the economy particularly the informal sector.

Given the foregoing, land owners may not be able to meet ULUP requirements including those that provide prime incentive, such as approved planning schemes. Consequently, lands are sold to individuals who together with other land/property users are also confronted with the same challenge and are not even able to formalise titles to their parcels despite its provision of prime incentive. With regard to real estate development companies which are presumed to comparatively have the financial resources, the extant practice, in the main, has been to acquire land, prepare a sub-division planning scheme over it, open-up comparatively cheaper earthwork road and connect same to electricity and then sell the land or do some developments and sell them without meeting the other ULUP regime requirements. Even so, their target markets are people in the middle upper class and the upper class who are comparatively few (Centre for Affordable Housing Finance in Africa, 2010).

Table 8.21 also shows that the benefit-cost ratios for tarred roads and concrete drains, and pipe-borne water were 0.62 and 0.20 respectively. However, these two planning attributes form part of the four planning attributes, which were considered most valuable to residential development in the study area. In fact, tarred roads and drains, was the most valued planning requirement (see Table 8.19). The foregoing suggests that it is imperative for measures to be taken to reduce the cost on these two planning attributes if planning is to be made more useful to residential development in the study area. Again, the benefit-cost ratios for the other planning attributes/requirements apart from sub-division planning scheme, electricity and formalised title reinforce the observation made in (Chapter 7) as to the need to review these planning requirements. These planning attributes/requirements were not so much valued yet costs on them were comparatively higher. To this extent the obvious question that must guide policy makers is that: are these requirements still relevant?

Findings from the external validation lend support to the above discourse. Indeed, the experts used for the external validation acknowledged that generally the cost for meeting ULUP regime requirements is most likely to outweigh its benefit. They, therefore, supported the finding of the study and thesis that the subject ULUP regime does not provide incentives and accounts for one of the main reasons for low compliance with ULUP regulations in the case study country. In so doing, one of the experts commented with regard to building permit, for example, that:

“I am aware of the requirement to obtain building permit prior to development. I equally appreciate the relevance of ULUP. Yet with even my status in the built environment and society, it has taken me more than one year so far to acquire building permit at GEMA for my house albeit without success. This is beside the huge financial commitments made towards it. I have, therefore, gone ahead to commence development.”

“Another one also observed that: In situations (areas) where the ULUP regime seem to have provided incentives, developers particularly real estate development companies have partially complied with those regulations. For example, nowadays the common practice among real estate companies is to acquire land, open up earthwork roads and mount electricity poles and begin to sell all the lands as residential plots to the neglect of other requirements.”

8.5 Chapter Summary

This chapter presented the last part of the survey results, analyses and discussions. It assessed the subject ULUP regime requirements’ compliance benefit and subsequently addressed the research question and its central argument based on comparison of the subject ULUP regime requirements’ compliance benefit and its cost determined in chapter seven. Having addressed the research question and its central argument, it is now appropriate to move onto the final chapter of this thesis, which focuses on conclusions and recommendations of the study including areas for further research.

Chapter Nine

Conclusions and Recommendations

9.1 Introduction

This final chapter outlines conclusions and recommendations of the study. It commences with summary of the research findings based on which conclusions are drawn and recommendations for policy formulation and practice made. This is followed by the study's contribution to knowledge, assumptions and limitations, and areas for its future extension. Final remarks' of the study concludes the chapter.

9.2 Summary of Research Findings

Chapter one set the basis for the research outlining the research problem, question, aim and objectives. The chapter also outlined how the research was approached, its scope and significance. Prior to these provisions, the chapter demonstrated the continuous quest to achieve and/or sustain socio-economic development by nations of the world, which has eluded SSA societies since their independence mostly in the early 1960s. The chapter emphasised the precarious development situation in the sub-region despite the implementation of several development paradigms starting from the welfare development model after independence to prescriptions of International Monetary Fund and the World Bank since the 1970s.

It noted further that given the role cities and urban areas play in socio-economic development of nations, attention has now been shifted to how cities can be managed to promote development in the sub-region noting the crucial role of ULUP. The chapter moreover established that ULUP regimes, which are to ensure appropriate management of urban areas and deal with the development challenges that confront SSA, are weak and dysfunctional. A major link to this weakness is low compliance with planning regulations. However, relevant studies have rarely applied insights from economics to provide a conceptual understanding of this weakness and evaluate the extent and magnitude of economic incentive/disincentive provided by these planning regimes. This situation had created sterility in policy formulation and required urgent examination. This, therefore, provided a tonic for the research. The study focused on individual property owners as a unit of analysis.

Chapter two crafted the conceptual framework based on Austrian economics theory of human action. The chapter established that several conventional economic theories, such as the neo-classical, welfare and recently neo-institutional with its various strands of transaction cost, property rights and public choice have been used to examine the case of ULUP, but it is still unclear what the economic rationale for planning intervention is. The chapter nevertheless noted that planning is still useful to socio-economic development. However, the success of ULUP regimes is contingent upon compliance with their ULUP regulations, which could be achieved through coercive force (involuntary compliance) or incentives (voluntary compliance). Compliance through coercive force requires up to date state institutions, such as the judiciary, the legal system and planning institutions, and huge amount of resources, which are hardly encountered in SSA. Voluntary compliance based on incentives could be contrived or instinctive, but given that contrived incentives to promote compliance with regulations also require huge resources and have largely not been successful in SSA, compliance based on instinctive incentives stands a better chance of success in SSA. Human action theory, which was first put together as an integrated theory by Mises (1949), provides an effective explanation of voluntary compliance based on instinctive incentives and was, therefore, adopted to construct the research framework. The chapter additionally noted that the human action theory was also adopted due to its suitability to the quantification of individual choices towards contributing to the wider debate on the economic rationale for planning intervention. Incentives, was however explained to mean the positive difference between appreciation in property value from compliance with planning regime requirements and the cost of compliance with the requirements.

Chapter three on the basis of the human action theory evaluated the relevant literature on ULUP in SSA with some discussions on Ghana, the case study country and constructed the central thesis of the study. The chapter established that some parts of SSA including Ghana had their own planning arrangements based on local customs and practices. The tenets of these planning arrangements were strictly complied with due to their provision of security and economic incentives for the indigenous people. However, with the advent of Western Europe's colonialisation of Africa these planning arrangements were truncated and ushered in formal colonial planning arrangement in SSA.

The chapter also established that the colonial planning arrangement, which was parachuted from colonialists' countries, prescribed modernist planning arrangement with the use of master plans underpinned by land use segregation concept. This planning

arrangement, therefore, required zoning, preparation and approval of sub-division plan and provision of infrastructure, architectural designs, titling and building permit, among others prior to development. The chapter established further that the health, political and economic incentives – securing the health of colonial administrators, assuaging nationalistic reprisals from indigenes and maintaining law and order, and economic gains from exploitation of the sub-region's resources by European entrepreneurs impelled the institutionalisation of the colonial planning regime. It was also established that the colonial planning arrangements, in the main, is still in force due to their provision of incentives for control of land and its resources by the few rich and elite in society.

Again, the chapter found that the received planning regimes in SSA are weak. A major link to this weakness was low compliance with planning regulations (requirements) by regulated entities; property owners/developers. It was established that a major determinant of this low compliance with regulations is the planning regimes inability to provide economic incentives for property owners/developers; the benefits of compliance with the planning regimes' requirements' do not match with their cost. Connected to this, is the general lack of awareness of regulations and poor perception of relevance of planning to socio-economic development needs of majority of urban dwellers as well as high levels of urban poverty.

Chapter three further noted that planning reforms are taking place in a number of countries in SSA as part of wider land tenure reforms. These planning reforms are being driven by neoliberal ideals and Western normative planning models particularly the collaborative planning model. Ghana, the case study country, for example, is currently implementing planning reform under LUMP, a subsidiary project to LAP, which is guided by some insights from the collaborative planning model. The chapter additionally noted that though insights from the collaborative planning model may not be new to the people of SSA it is debatable whether these planning reforms alone by themselves will succeed given the socio-economic conditions in the sub-region.

The chapter noted finally that in the midsts of growing malaise with SSA planning regimes and the debate surrounding the efficacy of on-going planning reforms in the sub-region, little is known about the extent and magnitude of economic incentive/disincentive provided by these extant planning regimes. This is in spite of previous studies' recommendations for studies to be undertaken to unveil such incentives/disincentives. Besides, it was noted that awareness of planning regulations and perception of relevance of planning on one hand and compliance with regulations on the other needed further

interrogation. It was, therefore, within the context of the foregoing that the study was fashioned and sought to address the thesis that SSA ULUP regimes are weak and dysfunctional in part with low compliance with planning regulations because they do not provide incentives for property owners/developers.

Chapter four prescribed the measurement framework for the research. In so doing, the chapter argued that due to complexities associated with conventional economic impact methodologies and their requirement for huge volumes of organised data, which are difficult to come by in the developing world a bespoke measurement framework, was needed. Consequently, the chapter presented an economic impact calibration framework built from scratch and based on insights from the conceptual framework, the conventional methodologies and data peculiarities in SSA.

Chapter five presented the research paradigm (methodology) within which the research was undertaken. The chapter outlined how the research was practically designed and the methods by which requisite data was procured and analysed to feed the bespoke measurement framework in chapter four. The actual analyses and implementation of the measurement framework together with findings from the survey(s) were discussed in (Chapters 6-8).

Chapter six presented findings on the relationship between property owners' socio-economic characteristics and compliance with ULUP regime requirements. The chapter established that despite high level of awareness of title formalisation requirement and relevance for title formalisation among the sampled property owners, compliance with the requirement was low. Besides, awareness of title formalisation requirement and perception of title formalisation as relevant though useful are not strong predictors of compliance with the requirement. The chapter also established low level of compliance with the building permit acquisition requirement among property owners. Similarly, awareness of building permit requirement and perception of ULUP as relevant are not strong predictors of compliance with the building permit requirement. However, the nature of planning practice in Ghana was seen as irrelevant to majority of property owners and confirmed somewhat by experts used in the validation of the results.

Chapter seven presented results of the analyses on the cost of Ghana's ULUP regime compliance requirements. It was established that in the case study area the cost of compliance with the subject ULUP regime requirements' per property was high; about 71.54% of the mean value of a planned 3-bedroom residential development or 501 times

the monthly minimum wage of the case study country in addition to excessive time lag. Bulk of the entire cost, however, came from pipe-borne water connection, and tarred roads and concrete drains costs, which cumulatively constituted almost 70% of the cost. The express legal requirements for development right; approved sub-division planning, architectural design, formalised title and building permit accounted for 13.83% with time lag of 48.25 months (4.02 years). Formalised title cost constituted bulk of this cost, which alone accounted for 8.6% of the entire cost with about 95% of the cost emanating from costs other than statutory (official) fees. Commuting cost was the highest, accounting for almost 25% of the entire title formalisation cost. This was followed by cost of time lag which accounted for 21.65%, unofficial fees 18.7% and professional fee 16.63%. Conversely, official fees, was highest in the case of building permit acquisition cost accounting for almost 28% of the cost. Professional fee, commuting cost and unofficial fees constituted 21.8%, 22.74% and 16.24% respectively. On time lag, the time lag for sub-division planning scheme was the highest (60.1%), followed by title formalisation (about 25.4%), building permit acquisition (12.4%) and architectural design (almost 2.1%). In the case of title formalisation, most of the time lag occurred at LTR (almost 49%) followed by SD (almost 32.7%), LC (6.1%) and LVB (4%). For building permit acquisition 83.3% of the time lag occurred at GEMA.

Chapter eight presented results of the analyses on benefit of Ghana's ULUP regime compliance requirements. The results confirmed the extant literature particularly those of the welfare economics school of thought that ULUP generates benefits. Thus, in the case study area it was established that the subject planning regime generates benefits for the specified property. However, apart from tarred roads and concrete drains, electricity, pipe-borne water and formalised title which had consistently positive valuation opinions from all the respondents, some negative tendencies were anticipated. This was regarding valuation opinions of the specified property if it is associated with the other ULUP regime requirements in comparison with their overall mean values. The presence of a worship centre in a planned residential neighbourhood was expected to reduce residential property values in the study area.

Chapter eight also established that compliance with the subject ULUP regime requirements' generates benefit of almost 34.2% of the mean value of a planned 3-bedroom residential development in the study area. More importantly, however, the chapter found that despite the benefit of the Ghana's ULUP regime in the context of this research, it produces a prime disincentive of about 37.4% of the mean value of a typical

standard 3-bedroom planned residential development in the study area or 262 times of the monthly minimum wage in Ghana. This together with findings from (Chapters 3 and 6) in particular support the central argument of this research that SSA planning regimes do not provide economic incentives for property owners (Chapters 1 and 3). Consequently, from human action standpoint this quirk accounts for one of the main reasons for low compliance with SSA planning regulations in the sub-region and by extension broken planning regimes in the sub-region.

9.3 Research Conclusions

Having summarised the research findings in the preceding section, this section proceeds to outline its main conclusions based on the findings.

9.3.1 Conceptual Position of SSA ULUPS

The success of any planning system depends, among other things on compliance with its regulations (Chapter 2). Applying insights from the human action theory, chapter two conceptually explained that human action underpinned by incentives determines compliance with planning regulations and then showed its consequences. Further to chapter two, chapter three on the basis of insights from human action demonstrated that planning regimes in SSA are weak and dysfunctional with low compliance with planning regulations partly due to their lack of incentives for property owners/developers or land users. Therefore, from the conceptual viewpoint this study concludes that human action is an overarching determinant of the success or otherwise of planning regimes in SSA.

9.3.2 Economic Impact Calibration Method

This study right from the outset established the need to apply insights from economics to provide a conceptual understanding of the weakness of SSA planning regimes and evaluate in quantitative terms economic incentives/disincentives provided by these planning regimes. The study, however, noted that quantitative economic calibration of ULUP policies in the developing world remains a challenge due to complexities associated with conventional methodologies and lack of organised data. An interesting finding to this effect was that even in the developed world, such as the UK and the USA where there is comparatively huge volumes of organised data, knowledge of the extent and magnitude of economic impact of planning policies is still scanty due to disagreements over findings from relevant studies borne out of these methodological complexities (see Chapter 4).

The study on the basis of this finding argued that there was a need for a bespoke quantitative economic impact methodology to calibrate the economic incentives/disincentives of SSA planning regimes' requirements. Bespoke methodology (ies) based on insights from the conceptual framework, the conventional methodologies and data peculiarities in SSA were, therefore, formulated for the study. These methodology(ies) are flexible and could be manipulated where necessary for application in SSA and even across the entire developing world.

9.3.3 Compliance, Awareness and Relevance

The literature discussion in (Chapter 3) established that there is low compliance with planning regulations in SSA. This is a major contributory factor to the weakness of planning regimes in the sub-region. The study in affirmation of the extant literature established that there are huge levels of non-compliance with title formalisation and building permit acquisition requirements. Majority of those who even comply with these requirements do so subsequent to the commencement of their developments while some also side step other requirements (see Chapter 6). Indeed, chapter six established that in spite of high level of awareness of the title formalisation requirement, and acknowledgement of the relevance of title formalisation among property owners/developers, compliance with the requirement was still low. Similarly, compliance with building permit requirement was low despite high level of awareness among property owners. However, planning practice in Ghana was not seen as relevant.

Chapter six further established that awareness of title formalisation requirement and perception of title formalisation as relevant though may be important, they by themselves cannot ensure compliance with the requirement. Formal sector employment was, however, found to be strongly associated with compliance with the title formalisation requirement. Similarly, awareness of building permit requirement and perception of planning practice in Ghana as relevant were not strong predictors of compliance with the requirement. This reinforces insights from the conceptual framework in (Chapter 2) that these factors are subsidiaries to prime incentive as a driver of compliance with regulations. However, given that significant majority of the respondents perceived planning practice in Ghana as not relevant there is need to make planning practice more relevant to the socio-economic needs of majority of urban dwellers in accordance with dictates of human action as one of the starting points to ensuring effective planning regime.

9.3.4 Cost of ULUP Regime

The literature reveals that there is a dearth of quantitative studies on cost of planning regimes in SSA. Few of such studies that exist also concentrate on a single or few aspects of the urban development process in the sub-region. These few studies even assessed cost in terms of time lag or in both time lag and money terms. Moreover, majority of these studies overlook indirect costs, such as unofficial fees, commuting cost, cost of time lag and waiting time. However, this research establishes that the cost of SSA ULUP regimes must be assessed based on a planned development incorporating all the necessary indirect cost as possible.

Chapter seven in the context of this research, therefore, demonstrated that the cost of SSA ULUP regimes is a combination of sub-division plan preparation and approval, and infrastructure and amenities costs. The remainder is architectural design, title formalisation and building permit acquisition costs noting indirect costs, such as time lag and commuting costs, unofficial and professional fees for facilitating services on the ULUP regime requirements. This revelation unlike previous studies, thus, gives a much broader and depth of indication of the quantitative cost of complying with ULUP regime requirements in Ghana.

A major finding to the foregoing was that the cost of compliance with ULUP regime requirements in the study area is huge relative to the socio-economic conditions of majority of urban dwellers (Chapter 7). The research established that the cost of compliance with the subject ULUP regime requirements in the study area regarding a typical standard 3-bedroom house on 0.065-hectare land is about 71.54% of the value of a planned 3-bedroom residential development on the same size of land in the area. This in monetary terms means that the cost of compliance with ULUP regime requirements in respect of a standard 3-bedroom planned residential development in the study area is GH¢56,087.58 or \$37,391.72 or 501 times the monthly minimum wage of the case study country in addition to time lag. This raises a query as to how many people could bear the cost and enjoy the benefit of such a planned residential development in a country where poverty is about 30% (Chapter 8) with the poverty line of GH¢370.89 or \$403.14 per annum (Chapter 6).

This revelation, therefore, supports the literature (Chapter 3) that suggests that meeting the regulative requirements under SSA ULUP regimes is costly in the light of the precarious socio-economic conditions of majority of the people in the sub-region. The revelation further reinforces the question why some of the requirements of these ULUP

regimes are still in operation. After all, the people in whose interest for which ULUP supposedly has been instituted are not in the position to bear the cost of its requirements and hence the requirements themselves.

9.3.5 Benefit of ULUP Regime

The literature is replete with quantitative empirical studies on benefits of ULUP policies in the developed world albeit inconclusive. However, like the quantitative cost studies, few of such studies exist on SSA ULUP regimes. Besides, these few studies focus on limited conventional ULUP factors, such as government zoning, roads, distance to the CBD or amenities particularly school or measure it from location standpoint (Chapter 8). This research, however, identified wide range of SSA ULUP regime requirements based on which the benefit was assessed. This research incorporated unconventional ULUP regime requirements, such as sub-division planning scheme, formalised title to property, architectural design and building permit, among others. The study was, thus, able to establish extensive quantitative notion of benefits of Ghana's ULUP regime.

Chapter eight found that Ghana's ULUP regime generates benefits in the study area. The chapter noted that typically compliance with ULUP regime requirements in the study area with respect to a standard 3-bedroom residential development on a 0.065-hectare land generates a benefit of approximately 34.2% of the value of a standard 3-bedroom planned development in the study area. Stated in monetary terms, the benefit of compliance with ULUP regime requirements' regarding a standard 3-bedroom residential development in the study area is GH¢26, 776.7 or \$17,851.17. Assessed individually, the chapter further noted that with the exception of worship centre which generated a negative value, all the requirements generated positive values albeit in different magnitudes. However, tarred road and concrete drains, formalised title, electricity and pipe-borne water generated most of the benefit. Benefits from these four planning regime requirements constituted 79.26% of the cumulative benefit of the entire individual planning regime requirements benefits and 31.5% of the mean value of a typical standard 3-bedroom planned residential development in the study area. Tarred road and concrete drains also generated most of the benefits among the four requirements; about 38.67% of the benefits from the four requirements. This suggests that the subject ULUP regime should put in more efforts towards addressing these requirements.

9.3.6 Economic Incentives/Disincentives of ULUP Regimes (Economic Impact)

The study established that Ghana's ULUP regime generates economic disincentives in the study area. Chapter eight noted that though some ULUP regime requirements; approved sub-division planning scheme, electricity and formalised title generated marginal positive economic impact, Ghana's ULUP regime in the context of this research generates huge economic disincentive in the study area. From the empirical evidence, chapter eight demonstrates that the extent of the economic disincentive is approximately 37.4% of the value of a standard 3-bedroom planned residential development in the study area, which is more than the benefit it generates. In monetary terms, this amounts to GH¢29,310.48 or \$19,540.32 in addition to the time lag it creates. Thus, the ULUP regime creates economic disincentive of 37.4% of the value of a standard 3-bedroom planned residential development in the study area or 262 times of the monthly minimum wage in Ghana plus time lag.

This finding undoubtedly runs contrary to the theoretical prescriptions of the human action based economic framework, which underpins this research. The human action based economic theoretical framework demonstrates that compliance with ULUP regulations, the manifestation of efficient and effective ULUP regime is driven by incentives. However, contrary to this proposition, a major finding from the empirical evidence has established that the extant Ghana's ULUP regime generates a huge disincentive to property owners/developers in the study area. This is because the cost of compliance with the requirements of the extant ULUP regime is far beyond its benefit apart from the fact that it may not be possible for majority of the people in the country to afford it given their precarious socio-economic conditions (see Chapter 8).

The foregoing gives evidence that Ghana's ULUP regime with respect to the study area is not worthwhile from the standpoint of economics. Given this evidence and the volumes of literature discussion on the weakness of the planning regime, the ongoing planning reform is in the right direction (Chapter 3). However, the critical question that confronts this planning reform and those occurring in other countries in SSA is: in what direction should it be pursued?

9.4 Recommendations

Based on its findings and conclusions, the study presents herewith recommendations for policy formulation and practice.

9.4.1 Overall Policy Direction

Chapter three established that current ULUP regime revisions as part of larger land tenure reforms taking place in SSA are along the lines of neoliberal prescriptions premised on western normative planning models particularly the collaborative planning model. These prescriptions, among others profess that the state should take a back seat in ULUP and development, and urban governance, but facilitate public-private partnership in urban development. Insights from the research findings based on the human action theory, however, have shown that the weak state of SSA ULUP regimes has partially resulted from its promotion of disincentives to property owners/developers.

This suggests that any policy formulation towards improvement of Ghana's ULUP regime and those of the countries in SSA should be guided by insights from human action. To this end, it is recommended that planning policies in the sub-region should provide incentives for property owners/developers or land users. Thus, property owners/developers should be made aware of planning policies and they should be made to establish the relevance of ULUP and, thus, planning policies to the attainment of their socio-economic needs. More importantly, the benefits of compliance with ULUP policies should exceed the cost of their compliance noting that such cost should also be within the reach of land users.

9.4.2 Awareness and Relevance of ULUP Regime Requirements

Insights from the human action theory as applied to this work established that awareness and relevance of ULUP regime requirements are important for compliance with the requirements. This means that ordinarily awareness and relevance of ULUP should be promoted. However, chapter six established that awareness of title formalisation requirement and relevance of title formalisation among property owners/developers were generally high. Awareness to obtain building permit prior to development was also generally high, but the relevance of ULUP as practiced in the case study country was found to be low. The chapter further found in affirmation to the insights from the human action theory that though awareness and relevance of the subject ULUP are necessary for compliance with planning requirements, they by themselves alone are not sufficient to predict compliance.

Given the foregoing, it is advocated that too much emphasis should not be placed on making property owners/developers or land users aware of these requirements. Rather, the subject ULUP regime requirements should be made more relevant to the socio-

economic development needs of urban residents. For example, it was noted from the literature discussion in (Chapter 3) that planning policies in SSA operate strict land use segregation concept across board. Meanwhile significant number of urban dwellers in the sub-region particularly those within low income communities would want to put their homes into compatible multiple uses to earn additional incomes (Chapter 3). This is compounded by the rise of the informal sector, which provides the source of livelihood for majority of urban dwellers in SSA (Chapters 1 and 3). Yet planning in the sub-region has not incorporated the sector. Additionally, due to their restrictive nature planning regimes in the sub-region do not provide developable lands for majority of urban residents. Indeed, it is estimated that about three-quarters of lands for new housing developments in the sub-region's urban areas are supplied through informal channels (Chapter 3). It is, thus, recommended that planning policies in the sub-region should promote integration of compatible land uses especially in low income communities and ensure adequate supply of developable lands through forward planning and flexible requirements.

9.4.3 Cost of ULUP Regime Requirements

The study established that cost of compliance with the subject ULUP regime requirements in the study area is very huge. Apart from its monetary cost exceeding that of its benefit, property owners/developers also incur a long period of time lag. For example, the time lag alone for sub-division, title formalisation, architectural design and building permit acquisition as established by this study was 48.25 months (4.02 years). Besides, the cost of compliance with planning requirements, one other implication of the insights from the human action theory as applied to this study was that where resources are not available there will be lack of incentives for property/developers to comply with planning requirements. That is, even if the benefit of compliance with ULUP regime requirements exceeds its cost, there will still not be compliance.

Based on these findings and dictates of human action theory, it is recommended that the cost of compliance with subject ULUP regime requirements should be made to come down as far as possible. The recommended strategies to address cost of compliance with the subject ULUP regime requirements are discussed as follows:

9.4.3.1 Cost of Infrastructure and Amenities

Cost of infrastructure; tarred roads and drains, electricity, pipe-borne water, fixed line telephone and community park accounted for substantial part of the subject ULUP

regime requirements' cost. Cost on these items accounted for 86% of the entire ULUP regime cost. Pipe-borne water cost alone was almost half of this cost. While it is acknowledged that the study area had a peculiar situation, hence the huge cost implication, the research recommends that community water projects and construction of bore holes and water wells in individual homes should be promoted. However, high constructional standards for bore holes and water wells should be ensured to avoid contamination.

With regard to tarred roads and concrete drains, which was the next item with huge cost incidence, several type of road designs could be introduced, which comparatively are up to standard and yet less expensive. For example, unpaved road types, such as gravel and earthwork roads can be earmarked for low and middle income communities. Besides, cost overruns other than delays in road and drain contract executions, such as deliberate inflation of contract sums to satisfy interest groups must be checked. Even though the research established that connection of residential area to electricity generate positive economic impacts, the cost of electricity could be further reduced. Indeed, during discussions with research participants from ECG, it came to the fore that the regime of connecting electric power to unplanned settlements is quite expensive. Consequently, it is proposed that to further reduce the cost of electric power connection, there should be continuous effort to ensure timely planning of settlements noting also the avoidance of undue inflation of contract sums.

Extension of fixed line telephone facility to a residential neighbourhood was found to generate little benefit at least compared to its cost. The possible reason as the research noted may be due to proliferation of the mobile phone facility. However, it emerged from discussions with research participants from VGL that with the deregulation of the telecom sector, telecommunication services are extended to settlements on demand driven basis. This is to ensure that telecommunication network operators do not run at a loss. This research recommends that while this demand driven approach may be suitable for prime communities, a strategic corporate responsibility arrangements should be encouraged to reduce the cost of extension of the facility to middle and low income areas. Alternatively, the facility should not be part of planning requirements whether expressly or impliedly.

Community parks in the case study country have various purposes including religious and recreation. However, given that this land use is not in high demand in the case study country, one way of dealing with its cost is to promote the amenity on demand driven basis acknowledging that affluent communities usually prefer the amenity. Alternatively,

community parks should be earmarked at vantage points that can be accessed by several communities and run along business lines. Under such circumstances, business oriented people will pay for the cost of development of the amenity and charge people who will patronise it.

Given that the cost of infrastructure and amenities is so huge, it is further recommended that central government plays a fundamental role in the provision of these facilities through collaboration with traditional land owners and under strong and good governance practices. For example, under strong and good governance practices government can enter into some arrangement with traditional land owning groups to provide basic infrastructure and take payments in the form of serviced lands, sell them and replicate the idea. Thus, in the case study country institutions such as the LC in collaboration with TCPD and other relevant government agencies with funds from public lands revenue can enter into an arrangement with a land owning group to provide basic infrastructure. The LC will then take payment by way of serviced lands, which it will manage or sell to generate revenue to provide similar services to other land owning groups.

9.4.3.2 Architectural Design, Title Formalisation and Building Permit Cost

Apart from title formalisation, which the research established to have marginal positive economic impact, the other requirements generated adverse economic impact. Even so, the cost of title formalisation was established to be too high; 8.6% of the entire ULUP regime requirements' cost. About 95% of the costs were costs other than statutory fees paid at public agencies for title formalisation. These include commuting cost, unofficial fees and professional fees for facilitation of formalisation activities. This means that a drastic reduction in these incidental costs will make compliance with title formalisation requirement more beneficial to property owners. Similarly, the incidental costs to building permit and architectural design requirements were substantial. The incidental costs component of the building permit requirement cost, for example, was about 72% of the cost while that of architectural design was 30.40%. When these planning regime requirements costs are less of their incidental costs they generate positive impacts. Therefore, it is recommended that incidental costs to these planning regime requirements cost should be reduced to the barest minimum.

On that score, the study recommends that satellite offices for public agencies involved in title formalisation and building permit acquisition activities should be set up at vantage points across urban areas to reduce commuting cost. Again, this study notes that unofficial fees, actually goes to private pockets for works which under normal circumstance should

be undertaken by beneficiaries of these fees. In fact, such fees could be used to improve service delivery at these public agencies. It is, therefore, proposed that to eliminate this syndrome of unofficial fees or reduce it to the barest minimum, there is a need to introduce different grades of services, such as ordinary and premium services. The premium service, for example, can be made expeditious at a slightly higher fee in which case portion of the monies paid as unofficial fees could be directed to. Similarly, professionals through their professional bodies should be encouraged to minimise their fees especially when dealing with low and middle income groups.

9.4.3.3 Cost of Time Lag

The study despite the preceding section also noted that cost of time lag contributed substantially to the subject ULUP regime requirements compliance cost. It was established that cost of time lag in the case of title formalisation cost alone was 21.65% while it accounted for 13.73% of the overall ULUP regime requirements compliance cost. It is, therefore, recommended that contracts particularly for the execution of infrastructural and amenities projects should be undertaken under strict good governance checks and practices.

9.4.3.4 Economic Empowerment

Though the surveyed property owners in general cannot be considered as poor given their expenditure profile (see section 6.3.3), the literature discussion reveals that poverty is rife in urban Ghana and indeed, SSA. If those who even have the financial resources to comply with planning regime requirements all things being equal are not complying with the requirements how much more those who do not have such resources at all. Consequently, any effort to reduce the subject ULUP regime requirements compliance cost needs to be complimented by strategies to economically empower majority of urban dwellers so that they can have resources to meet cost of compliance with these requirements. As noted in the extant literature, majority of urban dwellers in the developing world earn their living from the informal sector. The research also established in (Chapter 6) that 40% of property owners' surveyed, were engaged in the informal sector employment meaning that the sector when properly managed hold the key to empowering majority of Ghanaian urban dwellers economically. As such, it is proposed that GoG and those of SSA constituent countries should institutionalise and support the sector.

9.5 Contribution to Knowledge

This study makes three main significant contributions to knowledge. These are set out beneath.

9.5.1 Contribution to Conceptual Understanding

The Austrian economics theory of human action was used to devise an analytical framework for the study. While this theory has received application in several policy arenas particularly in the developed world, this is the first time it has been applied to the planning question in SSA. In its application to the sub-region's planning regimes, the study initially conceptualised compliance with planning regulations as human action, which is impelled by incentives and then traced its consequences. Based on this framework the study subsequently analysed the weakness of planning regimes in SSA and their outcome. The study in this regard makes two contributions to knowledge. Firstly, it contributes to the extension of the literature that provides conceptual understanding of weak planning regimes in SSA. Secondly, it provides additional framework within which economic analysis of the sub-region's planning regimes can be undertaken. These two contributions undoubtedly could serve as food for thought for planning theory, planning policy formulation and practice, and academic discourse even across the globe.

9.5.2 Methodological Contribution

To circumvent the complexities associated with conventional methodologies for calibrating economic impact of planning policies and their huge volumes of organised data requirements, which are usually non-existent in SSA, a bespoke methodology (ies) was developed to calibrate economic incentives/disincentives of planning regimes in the sub-region. This methodology (ies) combined methodologies some of which were built from scratch. It is practical, flexible and portable, and can be used in countries across SSA and even in other developing regions as well as for academic purpose.

9.5.3 Contribution on Economic Impact of Planning Regimes

The study in accordance with its aim assessed the extent of economic impact of Ghana's extant planning regime. In so doing, it calibrated wide range of costs and benefits of the subject planning regime requirements based on a planned residential development, which are often neglected by relevant studies. The study, for example, assessed unconventional indirect cost of planning requirements such as commuting cost, cost of time lag and benefits on approved sub-division plan, architectural designs and building permit.

Consequently, apart from the study providing a quantitative notion of the extent of economic incentive/disincentive provided by the subject planning regime towards contributing to addressing the knowledge gap in the literature it also provides additional evidence on other aspects of the costs and benefits of the planning regimes in SSA. Findings from the relationship between property owners' socio-economic characteristics and their compliance with ULUP regime requirements also give new empirical evidence for discussions on the relationship between awareness of planning requirements and relevance of planning regimes in SSA on one hand and compliance with the requirements on the other.

These findings are useful inputs to on-going planning reforms in Ghana and indeed SSA. More importantly, however, these findings and their underpinning analytical framework, which were based on individual property owners/developers or land users contribute to the wider policy debate on the economic rationale for ULUP intervention.

9.6 Research Assumptions and Limitations

There is no doubt that there are variations in SSA and, therefore, any analysis that tends to treat the sub-region as a single unit risks the likelihood of making over generalisation. However, there are equally similar political and socio-economic structures, such as the ULUPS bequeathed to constituent economies by colonialism, which with the exception of Republic of South Africa, makes it suitable to analyse the sub-region as a single unit (see Chapter 3; Mamdani, 1996). Even so, despite the steps that were taken to ensure high standard of reliability and validity, the sole focus on Accra, Ghana as the case study country makes the geographical sample for the research inadequate for generalisation of its findings across the sub-region. That said, as adequately stated elsewhere in this chapter useful insights and lessons could be drawn from the research findings for application across the sub-region.

The research presumed a planned residential area where residential property owners/developers are responsible for the cost of approved sub-division planning scheme, infrastructure and amenities. The economic appraisal focused on a standard 3-bedroom house with floor area of 254m² on 0.065 hectare leasehold land of a term of 50 years or more. Besides, all the infrastructural cost assessments other than roads and concrete drains were based on their connection from public mains at the shortest possible distance while land uses, such as worship centre, school and convenience shop were assumed to be privately owned and managed. There is a possibility that changes in these assumptions

will result in variations in the outcome of the economic appraisal analysis. However, it was not possible to use alternative assumptions to ascertain the probable variations given the time and resource constraints. That notwithstanding, these assumptions are not envisaged to affect the credibility of this research since they were adopted based on the requirements of the extant ULUP regime and the usual practices in the case study country.

The CVM used as part of the assessment of the subject ULUP regime requirements compliance benefits relied on the professional valuation opinions of real estate valuers and agents instead of individual property owners/developers in accordance with insights from the conceptual framework. The adoption of this approach was premised on data peculiarities in the case study country and SSA in general, and the fact that these professionals were comparatively better placed to submit opinions of value on the requirements due to their training and experience.

Due to time and resource constraints the economic analysis could not be extended to ULUP institutions and the effect of ULUP beyond its area of influence. Also, state and stool/skin lands were not considered. In other words, the research was limited to family and private lands. However, while the variation that could arise from state and stool lands may not be much and that findings from the research are legitimate for all the categories of land holdings in the case study country, extracting the impact of ULUP beyond the legitimate area of influence of ULUP institutions may require a long period of methodological research. With regard to the economic impact of ULUP institutions, an extension of this research to that effect has been recommended.

Characteristic of social science surveys, the study relied on the information provided by the research participants. Though measures were taken to ensure validity (see Section 5.3), the responses obtained from the research participants were believed to be true and accurate. This is a possible limitation to the study.

9.7 Prescriptions for Further Research

A number of areas have been identified for extension of this research. These are:

1. The conceptual framework devised in (Chapter 2) acknowledged prime incentive/disincentive as the main driver of compliance or otherwise with ULUP regime requirements. This research, however, concentrated, among others on the quantitative determination of the extent of the prime incentive/disincentive under

the subject ULUP regime. This means that the relationship between SSA ULUP regime prime incentive/disincentive and compliance with their requirements still begs the empirical question. Therefore, a study to that effect will be imperative.

2. Again, insights of the human action theory were used to examine SSA ULUP question primarily from the viewpoint of individual property owners/developers. It would, therefore, be useful for another study to apply the insights to SSA ULUP institutions and also empirically provide a quantitative notion of their extent of economic cost and benefit.
3. Additionally, the research due to its exigencies used real estate valuers and agents as proxies to actual property owners/developers to elicit benefits of the subject ULUP regime requirements. A study to obtain benefit of the requirements from actual property owners/developers will, therefore, be essential to compliment findings from this research.
4. Finally, the research concentrated on Ghana as the case study country. Consequently, the findings from the research technically are restricted to Ghana. There is, therefore, a need for similar studies in other countries in the sub-region to inform policy direction on these extant ULUP regimes.

9.8 **Final Remarks**

This study set out to investigate compliance with land use planning regulations in SSA and quantitatively analyse the economic incentive/disincentive provided by the planning regimes in the sub-region using Accra, Ghana as the case study. The study has provided a conceptual explanation to the low compliance with planning regulations in SSA, its link to the sub-region's weak planning regimes and the consequences thereof based on the Austrian economics theory of human action. It has also provided empirical quantitative evidence of economic incentive/disincentive of Ghana's planning regime. Apart from being different from other relevant studies, the study and its outcome provide unique contribution to knowledge for improvement on SSA planning regimes and other related purposes.

Appendices

SCHOOL OF TECHNOLOGY

UNIVERSITY OF WOLVERHAMPTON

A QUANTITATIVE ANALYSIS OF THE ECONOMIC INCENTIVES OF SUB-SAHARAN AFRICA URBAN LAND USE PLANNING SYSTEMS: CASE STUDY OF ACCRA, GHANA

Appendix 1: Questionnaire No. PO/2012 (Property Owners Socio-Economic Characteristics & Compliance with ULUP Regime Requirements)

Section A: Background Profile of Respondents

Q1. Gender: please tick [√] below:

1. Male

2. Female

Q2. What is your highest educational level? Please tick [√] below:

1. None

2. Primary

3. JSS/Elementary

4. Secondary/technical/vocational

5. Post-Secondary

6. Tertiary

Q3. What is your current occupation? Please Specify _____

Q4. Which of the categories of land below best describes your land/property? Please tick [√] below:

1. Government Land

2. Stool Land

3. Family Land

4. Other (Please Specify) _____

Q5. What is the nature of your property in terms of number of bedrooms? Please Specify below:

Q6. When did constructional work on your property begin? Please specify _____

Q7. Are you aware of the requirement for registration of land/property in Ghana? please tick [√]below:

1. Yes

2. No

Q8. Is registration of land/property relevant in Ghana? please tick [√]below:

1. Yes

2. No

If yes why? Please Specify _____

Q9. Are you aware of the requirement to obtain building permit prior to development? please tick[√]below:

1. Yes

2. No

Q10. Is Urban Land Use Planning as practiced in Ghana relevant? please tick [√]below:

1. Yes

2. No

Section B: Compliance of ULUP Regime Requirements

Q11. Have you registered your property? Please tick [√] below:

1. Yes

2. No

If “Yes” go to Q12 otherwise go to Q13.

Q12. When was it registered? Please specify _____

Q13. Is your property covered by a building permit? Please tick [√] below:

1. Yes

2. No

If yes please specify when the building permit was acquired _____

Section C: Respondent Monthly Expenditure & Comments

Q15. On average what is your typical expenditure profile in a month on the following items?
Please specify below:

Respondent Monthly Expenditure

Item	Expenditure in GH¢(please specify)
1. Food	
2. Water	
3. Electricity/Energy	
4. Property Rate	
5. Transport	
6. Telephone	
7. Health	
8. Refuse Disposal	
9. Education	
10. Remittances	
11. Social Activities	
12. Savings	
13. Other (s), please specify:	

Please if you have specific comments on urban land use planning regimes in sub-Saharan Africa and Ghana in particular, do provide them below:

If you would also like to receive the research findings or would be willing to be contacted with regards to your responses, please provide your contact information and tick the appropriate choice below:

Name of respondent:	
Address:	
Email:	
Telephone/Mobile No:	

1. Receive research findings
2. Willing to be contacted regarding my response
3. Other (Please Specify) _____

END OF QUESTIONNAIRE - THANK YOU FOR YOUR TIME!

SCHOOL OF TECHNOLOGY**UNIVERSITY OF WOLVERHAMPTON****A QUANTITATIVE ANALYSIS OF THE ECONOMIC INCENTIVES OF SUB-SAHARAN AFRICA URBAN LAND USE PLANNING SYSTEMS: CASE STUDY OF ACCRA, GHANA**

Appendix 2: Questionnaire No. PCC 1/2012 (ULUP Regime Requirements Compliance Costs/Title Formalisation)

Section A: Respondent Personal Data

Q1. Gender: please tick [✓] below:

1. Male
2. Female

Q2. Profession: please tick [✓] below:

1. Real Estate Valuer
2. Lawyer
3. Land/Real Estate Agent

Q3. For how many years have you been practicing as a professional?

Please Specify

Section B: Formalisation of Title to Land

Q4. Do you have experience in registration of land in Kwabenya and its environs, Accra?
Please tick [✓] below:

1. Yes
2. No

If yes go to Q5 otherwise end interview.

Q5. Which one of the categories of lands below best describes the land you normally deal with in terms of registration in the said area? Please tick [✓] below:

1. Government Land
2. Stool Land
3. Family Land
4. Other (Please Specify) _____

Q6. On average how long (in months) does it take for a deed on one-acre or less of such a land transaction to be completed? Please specify below:

Q7. How many follow-ups (times in a month) are on average made to a vendor of such a land to ensure completion of the deed? Please specify below: _____

Q8. How long on average (in hours) do deliberations take per follow-up? Please specify below:

Q9. On average what is the commuting time (in hours) per follow-up? Please specify below:

Q10. On average what is the expenditure for such a deed in terms of the following?

Expenditure for Deed on Land

Item	Cost in GH¢(please specify)
1. Deed	
2. Commuting cost per follow-up	
3. Other(s), please specify	

Q11. How long does it take on average (in months) to plot such a deed at the Lands Commission? Please specify below:

- Q12. On average how long (in months) are connected activities to the plotting at the under-listed agencies take? Please specify below:

Time spent on connected Plotting Activities

Agency	Time (in months)
1. TCPD (Ascertaining Planning Comments)	
2. OASL (Recording of stool land transaction & dealing with ground rent issues)	

TCPD= Town & Country Planning Department; OASL= Office of the Administrator of Stool lands

- Q13. Please indicate on average: 1. the number of follow-ups required to expedite plotting activities; 2. time spent per follow-up; and 3. commuting time per follow at/to the under-listed? Please tick [√] below:

Number & Time spent on Follow-up on Plotting Activities

Agency	No. of Follow-ups (in months)	Time Spent/ Follow-up (in hours)	Commuting Time/Follow-up (in hours)
1. LC			
2. TCPD			
3. OASL			

LC= Lands Commission, TCPD= Town & Country Planning Department; OASL= Office of the Administrator of Stool Lands

- Q14. On average what is the expenditure regarding such a deed for plotting activities at the under-listed agencies in terms of the outlined items below? Please specify below:

Expenditure for Plotting Activities

Items/Agency	LC GH¢	TCPD GH¢	OASL GH¢
1. Official fees			
2. Unofficial fees			
3. Commuting cost per follow up			
4. Other(s), Please Specify			

LC= Lands Commission, TCPD= Town & Country Planning Department; OASL= Office of the Administrator of Stool Lands

- Q15. How long does it take on average (in months) to register such a deed at the Land Title Registry? Please specify below:

- Q16. On average how long are connected activities to the registration at the under-listed agencies take? Please specify below:

Time spent on connected Registration Activities

Agency	Time (in months)
1. LVB (Undertaking stamp duty)	
2. SD (Preparation of Cadastral Plan)	
3. LC (Conduction of Land Title Search)	

LVB= Land Valuation Board; SD= Survey Department, LC= Lands Commission

- Q17. On average indicate: 1. the follow-ups required to expedite action on registration activities; 2. average time spent per follow-up; and 3. commuting time per follow at/to the under-listed agencies? Please specify below :

Number & Time spent on Follow-up on Registration Activities

Agency	No. of Follow-ups (in months)	Time Spent/ Follow-up (in hours)	Commuting Time/Follow-up (in hours)
1. LVB			
2. LTR			
3. SD			
4. LC			

LC= Land Valuation Board, LTR= Land Title Registry; SD= Survey Department, LC=Lands Commission

- Q18. On average what is the expenditure on such a deed for registration activities at the under-listed agencies in terms of the outlined items below: Please specify below:

Expenditure for Registration Activities

Items/Agency	LVB GH¢	LTR GH¢	SD GH¢	LC GH¢
1. Official fees				
2. Unofficial fees				
3. Commuting cost per follow-up				
4. Other(s), Please Specify				

LVB= Land Valuation Board, LTR= Land Title Registry; SD= Survey Department, LC=Lands Commission

- Q19. Indicate the professional fee charge on average for undertaking registration of title to land on behalf of a client in the categories outlined below; please specify below:

Professional fee Charge

Service	Charge GH¢
1. Plotting at the Lands Commission	
2. Registration at Land Title Registry	
3. Plotting at Lands Commission & Registration at Land Title Registry	

Section C: Comments

Please if you have specific comments on urban land use planning regimes in sub-Saharan Africa and Ghana in particular, do provide them below:

If you would also like to receive the research findings or would be willing to be contacted with regards to your responses, please provide your contact information and tick the appropriate choice below:

Name of respondent:	
Address:	
Email:	
Telephone/Mobile No:	

1. Receive research findings
2. Willing to be contacted regarding my response
3. Other (Please Specify)

END OF QUESTIONNAIRE - THANK YOU FOR YOUR TIME

SCHOOL OF TECHNOLOGY

UNIVERSITY OF WOLVERHAMPTON

A QUANTITATIVE ANALYSIS OF THE ECONOMIC INCENTIVES OF SUB-SAHARAN AFRICA URBAN LAND USE PLANNING SYSTEMS: CASE STUDY OF ACCRA, GHANA

Appendix 3: Questionnaire No. PCC 2/2012 (ULUP Regime Requirements Compliance Costs/Architectural Designs)

Section A: Respondent Personal Data

Q1. Gender: please tick [✓] below:

1. Male
2. Female

Q2. Profession/Status: please tick [✓] below:

1. Real Estate Valuer
2. Real Estate Officer/Agents

Q3. For how many years have you been practicing as a professional or this trade?

Please Specify _____

Section B: Preparation of Architectural Designs

Q4. Do you have experience in contracting for the preparation of residential building plans in Accra? Please tick [✓] below:

1. Yes
2. No

If yes go to Q5 otherwise end interview.

Section C: Comments

Please if you have specific comments on urban land use planning regimes in sub-Saharan Africa and Ghana in particular, do provide them below:

If you would also like to receive the research findings or would be willing to be contacted with regards to your responses, please provide your contact information and tick the appropriate choice below:

Name of respondent:	
Address:	
Email:	
Telephone/Mobile No:	

1. Receive research findings
2. Willing to be contacted regarding my response
3. Other (Please Specify)

END OF QUESTIONNAIRE - THANK YOU FOR YOUR TIME!

SCHOOL OF TECHNOLOGY

UNIVERSITY OF WOLVERHAMPTON

A QUANTITATIVE ANALYSIS OF THE ECONOMIC INCENTIVES OF SUB-SAHARAN AFRICA URBAN LAND USE PLANNING SYSTEMS: CASE STUDY OF ACCRA, GHANA

Appendix 4: Questionnaire No. PCC 3/2012 (ULUP Regime Requirements Compliance Costs/Building Permit)

Section A: Respondent Personal Data

Q1. Gender: please tick [✓] below:

1. Male
2. Female

Q2. Profession please tick [✓] below:

1. Real Estate Valuer
2. Real Estate Manager/Officer
3. Land/Real Estate Agent
4. Lawyer
5. Architect

Q3. For how many years have you been practicing as a professional?

Please Specify _____

Section B: Building Permit Acquisition

Q4. Do you have experience in facilitating processing of residential building permit application at the Ga East Municipal Assembly or any of the planning authorities in Accra? Please tick [✓] below:

1. Yes
2. No

If yes go to Q5 otherwise end interview.

- Q5. On average how long (in months) does it take to process a building permit on a basic single storey 3-bedroom residential property? Please specify below:

- Q6. How long on average (in months) does title clearance for building permit at Land Title Registry take? please specify:

- Q7. Please indicate on average: 1. the number of follow-ups required to expedite action on permit activities; 2. time spent per follow-up; and 3. commuting time per follow at/to the under-listed agencies? Please specify below:

Number & Time spent on Follow-up on Building Permit Activities

Agency	No. of Follow-ups (in months)	Time Spent/ Follow-up (in hours)	Commuting Time/Follow-up (in hours)
1. PA			
3. LTR			

PA= Planning Authority, LTR= Land Title Registry

- Q8. On average what is the expenditure for a basic 3-bedroom residential property regarding acquisition of building permit activities at the under-listed agencies in terms of the outlined items below? please specify below:

Expenditure for Building Permit Acquisition Activities

Items/Agency	PA GH¢	LTR GH¢
1. Official fees		
2. Unofficial fees		
3. Other(s), Please Specify		

PA= Planning Authority, LTR= Land Title Registry

- Q9. On average what is the charge for facilitating processing of building permit on a basic 3-bedroom residential property on behalf of a client? please specify below:
[GH¢]

Section C: Comments

Please if you have specific comments on urban land use planning regimes in sub-Saharan Africa and Ghana in particular, do provide them below:

If you would also like to receive the research findings or would be willing to be contacted with regards to your responses, please provide your contact information and tick the appropriate choice below:

Name of respondent:	
Address:	
Email:	
Telephone/Mobile No:	

1. Receive research findings
2. Willing to be contacted regarding my response
3. Other (Please Specify)

END OF QUESTIONNAIRE - THANK YOU FOR YOUR TIME!

SCHOOL OF TECHNOLOGY

UNIVERSITY OF WOLVERHAMPTON

A QUANTITATIVE ANALYSIS OF THE ECONOMIC INCENTIVES OF SUB-SAHARAN AFRICA URBAN LAND USE PLANNING SYSTEMS: CASE STUDY OF ACCRA, GHANA

Appendix 5: Questionnaire No. PCB 1/2012 (ULUP Regime Requirements Compliance Benefits)

Section A: Background of Respondent

Q1. Profession: please tick [✓] below:

1. Real Estate Valuer

2. Real Estate Agent

Q2. Which of the following best describes your office of practice? Please tick [✓] below:

1. Work for public organisation

2. Engaged in private practice

3. Other (please specify) _____

Q3. For how many years have you been practicing as a professional? Please tick [✓] below:

1. Below 5 years

2. 5 years or more

Section B: Planning Requirements Compliance Benefits

Q4. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra? If it is located in an area without:

1. Approved sub-division planning scheme
2. Tarred roads and concrete drains
3. Electricity
4. Pipe-borne water
5. Fixed Telephone lines
6. Community Park
7. Worship Centre
8. School
9. Convenience Shop; and is not covered by:
10. Formalised title
11. Architectural Design and
12. Building Permit

Please specify [GH¢ _____]

Sub-Division Planning Scheme

Q5. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra? If :

It is located within an area covered by approved sub-division planning scheme to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Tarred Roads & Concrete Drains

Q6. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is located within an area with tarred roads and concrete drains to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Electricity

Q7. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area served with electricity from the public mains to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Pipe Borne Water

Q8. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area served with pipe-borne water from the public mains to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Telephone Facilities

Q9. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area served with fixed telephone line facilities from the public mains to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Community Park

Q10. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area provided with community park to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Worship Centre

Q11. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area with worship centre to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

School

Q12. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area provided with a school to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH ¢]

Convenience

Q13. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is in an area provided with a convenience shop to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Formalised Title

Q14. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It has formalised title to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢]

Architectural Designs

Q15. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra if:

It is covered by approved architectural design to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢ _____]

Building Permit

Q16. What is your professional opinion of value on a standard 3-bedroom estate house in Kwabenya Area of Accra if:

It is covered by approved building permit to the exclusion of the other ULUP regime requirements list under **Q.4**

Please specify [GH¢ _____]

All the outlined planning regime requirements compliance (benefit) attributes

Q17. What is your professional opinion of value on a standard 3-bedroom house in Kwabenya Area of Accra? If:

It is located within an area with:

1. Approved planning scheme;
2. Tarred roads and concrete drains;
3. Electricity;
4. Pipe-borne water;
5. Fixed Telephone line facilities;
6. Community Park
7. Worship centre;
8. School;
9. Convenience Shop; and covered by:
10. Formalised title;
11. Architectural designs; and
12. Building permit

Please specify [GH¢ _____]

Section C: Comments

Please if you have specific comments on urban land use planning regimes in sub-Saharan Africa and Ghana in particular, do provide them below:

If you would also like to receive the research findings or would be willing to be contacted with regards to your responses, please provide your contact information and tick below:

Name of respondent:	
Address:	
Email:	
Telephone/Mobile No:	

1. Receive research findings
2. Willing to be contacted regarding my response
3. Other (Please Specify) _____

END OF QUESTIONNAIRE - THANK YOU FOR YOUR TIME!

Appendix 6: Request for Assistance Letter to Institutional Participants

School of Technology,
University of Wolverhampton,
Wulfruna Street, WV1 1LY, UK.
E-mail: K.G.BaffourAwuah@wlv.ac.uk

Dear Sir/Madam,

REQUEST FOR ASSISTANCE IN DATA GATHERING

The undersigned is a Doctoral Research student at the University of Wolverhampton in the United Kingdom. He is researching into economic incentives of sub-Saharan Africa Urban Land Use Planning Systems using Accra - Ghana as a case study. The aim is to provide a quantitative notion of the economic impact of the Urban Land Use Planning Regimes in the sub-region.

The research is under the auspices of University of Wolverhampton, UK and Ghana's Lands Commission and will assist in generating input to devise appropriate planning models for SSA in general and Ghana in particular to promote socio-economic development. Your institution has been identified as one of the key institutional participants for this research. The undersigned would, therefore, be grateful if he is allowed access to your records and also be introduced to resource person(s) for the purpose of gathering requisite data for the research.

The undersigned assures you of strict confidentiality and that information obtained from your outfit will not be revealed under any circumstance in accordance with best research ethics. In this regard, the undersigned would like to make initial visit at your earliest convenient date to discuss the modalities involved including the specific nature of data and resource persons required.

Your maximum cooperation is anticipated.

Yours faithfully,

Kwasi Gyau Baffour Awuah

Appendix 7: External Validation of Research Findings Guide [For Experts in Urban Development Processes]

School of Technology, University of Wolverhampton, UK

A Quantitative Analysis of the Economic Incentives of Saharan Africa Urban Land Use Planning Systems: Case Study of Accra, Ghana

Brief Background of Research:

Socio-Economic Characteristics of Property Owners and their Compliance with ULUP Requirements

Research Finding	Comments of Interviewees
1. High level of Awareness of Title Formalisation & Building Permit Requirements among respondents; 56% and 78%	
2. High perception of relevance of Title Formalisation Requirement ,but perception of relevance of ULUP as practiced in Ghana is low (87% and 37% respectively)	
3. High level of non-compliance with Title Formalisation & Building Permit requirements (65% and 69% respectively)	
4. Awareness & Relevance of Title Formalisation unable to predict Compliance with the requirement;	
Awareness of Building Requirement & Relevance of ULUP unable to predict compliance	

Cost and Benefit of ULUP Requirements

5. Huge compliance cost of ULUP Regime requirements
(about 71.5% of value of standard 3-bedroom house in study area)
 6. Compliance of ULUP Regime requirements generate benefit
(about 34.2% of value of standard 3-bedroom house in study area)
 7. Ghana ULUP regime requirements generate adverse economic
impact of about 37.4% of the value of standard 3-bedroom house
in study area
 8. Ghana's ULUP regime requirements do not provide incentives for residential
property owners to comply with them.
-

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